CONSUMER FINANCIAL PROTECTION BUREAU | MARCH 2023

Report on the Home Mortgage Disclosure Act Rule Voluntary Review

Consumer Financial Protection Bureau

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Executive Summary

Since 1975, the Home Mortgage Disclosure Act (HMDA) has provided the public with information about how financial institutions are serving the housing needs of their communities.[1] HMDA requires certain depository institutions and for-profit nondepository institutions to report data about originations and purchases of mortgage loans, as well as mortgage loan applications that do not result in originations (for example, applications that are denied or withdrawn). Public officials use the information available through HMDA to develop and allocate housing and community development investments, to respond to market failures when necessary, and to monitor whether financial institutions may be engaging in discriminatory lending practices.

Section 1094 of the Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank Act) amended HMDA to improve the utility of the HMDA data and revise Federal agency rulemaking and enforcement authorities.[2] The Bureau views this review of the implementation of the Dodd-Frank Act changes to HMDA as an opportunity to evaluate other ways to improve upon the data collected, reduce unnecessary burden on financial institutions, and streamline and modernize the manner in which financial institutions collect and report HMDA data.[3] In the 2015 HMDA Final Rule, the Bureau implemented the Dodd-Frank Act amendments to HMDA and made other changes in the Bureau's Regulation C. Most of the 2015 HMDA Final Rule took effect on January 1, 2018.[4] The Bureau issued subsequent amendments to HMDA in 2017, 2018, 2019 and 2020, which together with the 2015 rule the Bureau refers to collectively as "the HMDA Rule."[5]

[1] 12 U.S.C. 2801-2810.

[2] Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. 111-203, 124 Stat. 1376, 1980, 2035-38, 2097-101 (2010).

[3] Request for Information Regarding the HMDA Rule Assessment, 86 FR 66221 (Nov. 22, 2021) (November 2021 RFI).

[4] 80 FR 66128, 66256-57 (Oct. 28, 2015). The amendments to the institutional coverage criteria for depository institutions took effect on January 1, 2017. 12 CFR 1003.2(g)(1)(v)(A). The quarterly reporting requirements for certain larger-volume institutions took effect on January 1, 2020. 12 CFR 1003.5(a)(1)(ii).

[5] Home Mortgage Disclosure (Regulation C); 82 FR 43088 (Sept. 13, 2017); Pub. L. 115-174, 132 Stat. 1296 (2018); Partial Exemptions from the Requirements of the Home Mortgage Disclosure Act Under the Economic Growth, Regulatory Relief, and Consumer Protection Act (Regulation C), 83 FR 45325 (Sept. 7, 2018); Home Mortgage Disclosure (Regulation C), 84 FR 57946 (Oct. 29, 2019); Home Mortgage Disclosure (Regulation C), 85 FR 28364 (May 12, 2020), *vacated in part by Nat'l Cmty. Reinvestment Coal., et al., v. Consumer Fin. Prot. Bureau*, No. 20-cv-2074, 2022 WL 4447293 (D.D.C. Sept. 23, 2022).. For a more specific description of the 2015 HMDA Final Rule, as well as the subsequent 2017, 2018, 2019 and 2020 amendments, see Chapter 2.

The Bureau has previously determined that the HMDA Rule is not a significant rule for purposes of section 1022(d) of the Dodd-Frank Act. The Bureau's review is, therefore, voluntary.

The report is generally organized around the following primary topic areas: 1) institutional and transactional coverage; 2) data points; 3) benefits of the new data and disclosure requirements[6]; and 4) operational and compliance costs. The Bureau published its plans for this report in November 2021 and requested comments.[7]

Chapter 1 describes the Dodd-Frank Act requirements to conduct an assessment, the Bureau's finding that the HMDA Rule was not significant, and the Bureau's decision to conduct a voluntary review. This chapter also provides an overview of the goals of the HMDA Rule, and discusses the methodology and data used in this report. Chapter 2 discusses the scope and requirements of the HMDA Rule. It includes the statutory background and history of the HMDA Rule, an overview of the Bureau's development of the HMDA Rule, and the HMDA Rule's major provisions.

Chapter 3 explores the HMDA Rule's transactional and institutional coverage. To successfully fulfill HMDA's statutory purpose, HMDA loan data must accurately characterize the mortgage market. In addition to providing representative information on transactions, applications, institutions, and applicants in aggregate, the data must be comprehensive enough to enable the Bureau to accurately analyze consumers with limited access to mortgage financing or at risk of discrimination. Chapter 3 provides a general overview of the mortgage markets and information on how market coverage has changed over time and across loan types. This chapter also explores how changes in reporting thresholds and other amendments affected HMDA coverage and the available data on the supply over time of open-end lines of credit and closed-end mortgage loans. Key findings include:

- Estimated quarterly HMDA data coverage ratios of all first lien, closed-end originations ranged from 0.93 and 0.97 between Q1 of 2015 and Q4 of 2019. This implies that between 93 percent and 97 percent of all first lien, closed-end originations made between Q1 of 2015 and Q4 of 2019 are observed in the HMDA data.

[6] The Bureau considers an evaluation of the balancing test used to determine whether and how HMDA data should be modified prior to its disclosure to the public to protect applicant and borrower privacy to be outside the scope of its review of the HMDA Rule.

[7] November 2021 RFI at 66226-27.

- Consistent with the 2015 HMDA Final Rule's increase in the closed-end reporting threshold for depository institutions, HMDA coverage of first lien, closed-end mortgages decreased between Q1 of 2017 and Q1 of 2018, from 97.0 percent to 93.8 percent.[8]

- Prior to the 2017 HMDA Final Rule, reporting of home-equity lines of credit (HELOCs) was voluntary and likely close to zero. Starting in Q1 of 2018, the annual HMDA data coverage of HELOCs was around 0.80. This implies that 80 percent of HELOC originations were reported under HMDA between 2018 and 2020.

- For all financial institutions originating a closed-end mortgage, the share of those institutions reporting HMDA data decreased between 2015 and 2020, with the largest decreases observed in 2017 and 2020.

Chapter 4 covers new or revised data points under the HMDA Rule. This chapter also examines how the new or revised HMDA data points have contributed to predicting underwriting and pricing outcomes. Chapter 4 directly considers the effectiveness of the HMDA Rule's data points in meeting several goals of the HMDA Rule. Key findings include:

- The data points added to reporting requirements in the 2015 HMDA Final Rule enhanced HMDA data users' ability to determine whether financial institutions are serving the housing needs of their communities, as envisioned by the statute.

- The new data points on pricing outcomes enhanced the HMDA data's usefulness for regulatory agencies in fulfilling their statutory obligations.

Revised and expanded reporting of race and ethnicity helped provide additional data on subpopulation groups in the residential mortgage market to substantially advance HMDA data users' ability to understand the market for particular subgroups and to allow regulators and the public to observe the extent to which financial institutions are serving the housing needs of all communities. Chapter 5 explores benefits of the new data and disclosure requirements. This chapter reviews academic and other research literature to explore the ways stakeholders are using the new and revised data points in the HMDA data to meet the specific goals of the HMDA Rule and objectives of title X of the Dodd-Frank Act. Key findings include:

- HMDA data are crucial to regulators in conducting supervisory exams and enforcement investigations. The requirement to report new HMDA data points greatly increased the accuracy of supervisory data since the additional data points are now used to assess fair

[8] In the 2015 HMDA Final Rule, the Bureau increased the closed-end mortgage loan reporting threshold or depository institutions from one to 25. The 2015 rule also expanded institutional coverage by requiring the reporting of closed-end loans by non-depository institutions.

lending risks and are subject to supervisory exams for accurate filing to HMDA. HMDA data are also used to estimate appropriate remuneration amounts for harmed consumers.

- The new HMDA data points also reduced the burden on institutions in responding to requests from regulators.

Chapter 6 includes the Bureau's analysis of the HMDA Rule's effects on the compliance costs to covered institutions. This chapter describes the Bureau's methodology in assigning cost impacts to the HMDA Rule. Key findings include:

- Industry estimates of HMDA compliance costs per loan application reported to the Bureau, in response to the 2019 HMDA Proposal and the limited industry outreach conducted for this voluntary review, were similar to the Bureau's estimates from the 2015 HMDA Final Rule.[9]

- Industry data standards and HMDA data definitions have become more aligned since the HMDA Rule was issued, potentially reducing the burden of HMDA compliance.

- For existing closed-end reporters, the estimated increase in ongoing compliance costs for HMDA reporting per loan application (in 2018 dollars) was approximately $42 for a representative low-complexity financial institution, $11 for a representative moderate-complexity financial institution, and $0.47 for a representative high-complexity financial institution.[10]

- For open-end reporters, who are almost all newly reporting open-end lines of credit under the HMDA Rule (including financial institutions who previously reported HMDA data for their closed-end loan applications), the estimated increase in ongoing HMDA compliance costs per loan application was approximately $50 for a representative low-

[9] The estimates are within a range of costs per application submitted by industry commenters that were reported in the 2020 HMDA Final Rule.

[10] This report uses similar methodologies as the 2015 HMDA Final Rule to produce estimates of the cost of compliance for three representative tiers of financial institutions based on loan register size: low-complexity, moderate-complexity, and high-complexity.

complexity financial institution, $45 for a representative moderate-complexity financial institution, and $10 for a representative high-complexity financial institution.

- For existing HMDA reporters who qualify for a partial exemption from reporting certain HMDA data points, the estimated increase in ongoing HMDA compliance costs per loan application was approximately $12 for a representative low-complexity financial institution and approximately $7 for a representative moderate-complexity financial institution.

- Assuming that all variable costs of HMDA reporting — a component of total ongoing compliance costs — were passed through to consumers, the estimated increase in variable costs of HMDA reporting for closed-end loans was approximately $26 per loan application for a representative low-complexity financial institution, $0.43 per loan application for a representative moderate-complexity financial institution, and $0.02 per loan application for a representative high-complexity financial institution.

- The estimated total market-level impact of the HMDA Rule on ongoing compliance costs was approximately $67,300,000 in 2018, with approximately 45 percent of these costs due to new reporting of open-end lines of credit. This estimate is within the range of the Bureau's aggregate cost estimates from the 2015 HMDA Final Rule.

1. Introduction

This report contains the findings of the Bureau's voluntary review of the final rule on the Home Mortgage Disclosure Act the Bureau issued in October 2015 (2015 HMDA Final Rule)[11] and related amendments (collectively, the HMDA Rule). Section 1022(d) of the Dodd-Frank Act requires the Bureau to conduct an assessment of each significant rule or order adopted by the Bureau under Federal consumer financial law.[12] The assessment must address, among other relevant factors, the Rule's effectiveness in meeting the purposes and objectives of title X of the Dodd-Frank Act and the specific goals stated by the Bureau. The assessment must reflect available evidence and any data that the Bureau reasonably may collect. Before publishing a report of its assessment, the Bureau must invite public comment on recommendations for modifying, expanding, or eliminating the significant rule or order.[13] The Bureau previously determined that the HMDA Rule is not a significant rule for purposes of section 1022(d), and therefore the Bureau is not required to conduct an assessment under the Dodd-Frank Act. As discussed in the Bureau's November 2021 Request for Information (November 2021 RFI)[14] on the voluntary assessment, this determination was based on a number of factors, including the estimated aggregate annual costs to industry of complying with the HMDA Rule and limited or undetectable effects of the rule on mortgage features, mortgage industry operations, and the price and availability of mortgages.

The Bureau's 2015 HMDA Final Rule, as well as the 2014 proposed rule for the 2015 HMDA Rule and the material submitted to the Small Business Review Panel leading to the 2015 HMDA Rule, presented a basic framework of analyzing compliance costs for HMDA reporting, including ongoing costs and one-time costs for financial institutions.[15] In the 1022(b)(2) cost-benefit analysis that accompanied the 2015 HMDA Final Rule, the Bureau estimated that the primary costs of the rule would be one-time implementation and not ongoing annual costs.[16]

[11] Home Mortgage Disclosure (Regulation C); 80 FR 66128 (Oct. 28, 2015).

[12] 12 U.S.C. § 5512(d).

[13] 12 U.S.C. § 5512(d)(3).

[14] Request for Information Regarding the HMDA Rule Assessment, 86 FR 66226-66227 (Nov. 22, 2021).

[15] The Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), as amended by section 1100G(a) of the Dodd-Frank Act, requires the Bureau to convene a Small Business Review Panel before proposing a rule that may have significant economic impact on a substantial number of small entities. *See* Pub. L. 104-121, tit. II, 110 stat. 847, 857 (1996) as amended by Pub. L. 110-28, and Pub. L. 111-203, section 1100G (2010).

[16] Specifically, the Bureau estimated the 2015 HMDA Final Rule would result in ongoing costs of $53.6 million to $68.3 million per year for all reporters, as compared to one-time and start-up costs from the Rule of between $177

Qualitative factors were considered as well. As a data collection rule, the HMDA reporting requirements have had little direct impact on the features of consumer financial products and services.[17] The Bureau also considered the effects of the HMDA Rule on the market in making its determination. In the 2015 HMDA Final Rule, the Bureau explored whether covered entities passed through increased compliance costs to consumers, and found the impact to be negligible. The Bureau also considered in the 2015 HMDA Final Rule whether the new reporting requirements would cause smaller institutions to exit the mortgage market, either for closed-end mortgage loans or for open-end lines of credit. As mentioned in the November 2021 RFI, during its evaluation of whether the HMDA Rule was a significant rule, the Bureau was not aware of evidence that the 2015 HMDA Final Rule, or any related amendments, caused some lenders to leave the market or inhibited any lenders from entering the market, resulting in a decline in consumers' access to credit. Chapter 3 below addresses the Bureau's consideration of this question in more detail.

All of the above factors contributed to the Bureau's conclusion that the HMDA Rule is not significant for purposes of section 1022(d) of the Dodd-Frank Act. While the Bureau is not required to conduct an assessment of the HMDA Rule under section 1022(d), the Bureau believes that this review will strengthen the Bureau's ability to maintain a fair, competitive and, non-discriminatory mortgage market. The Bureau also previously noted that it would be doing a voluntary review of this rulemaking.[18] For all of these reasons, the Bureau decided to conduct a voluntary review.

The Home Mortgage Disclosure Act (HMDA) is a data collection, reporting, and disclosure statute that was enacted in 1975.[19] HMDA requires certain depository institutions and for-profit nondepository institutions to report data about originations and purchases of mortgage loans, as well as mortgage loan applications that do not result in originations (for example, applications that are denied or withdrawn). For nearly 50 years, it has provided the public with information

million and $326.6 million per year. The Bureau's 1022(b) analysis in the 2015 HMDA Final Rule annualized one-time and start-up costs using a 7 percent discount rate and 5-year amortization window. Generally, for the subsequent 2017, 2018, 2019 and 2020 HMDA rules, the Bureau estimated that changes in thresholds and other requirements would represent savings in ongoing costs for affected entities. Although affected entities would incur additional one-time costs from the adjustment to new HMDA requirements, the Bureau estimated these would be negligible.80 FR 66128, 66265-66 (Oct. 28, 2015).

[17] November 2021 RFI at 66227.

[18] The Bureau published its Spring 2021 Agenda as part of the Spring 2021 Unified Agenda of Federal Regulatory and Deregulatory Actions. The HMDA Rule voluntary review was announced in the Spring 2021 Agenda as part of the Bureau's plans to review existing regulations (https://www.consumerfinance.gov/about-us/blog/spring-2021-rulemaking-agenda/). The Bureau announces its rulemaking plans in semiannual updates of its rulemaking agenda, which are posted as part of the Federal government's Unified Agenda of Regulatory and Deregulatory Actions. The current Unified Agenda can be found here: https://www.reginfo.gov/public/do/eAgendaMain.

[19] 12 U.S.C. 2801-2810.

about how financial institutions are serving the housing needs of their communities. Public officials use the information available through HMDA to develop and allocate housing and community development investments, to respond to market failures when necessary, and to monitor whether financial institutions may be engaging in discriminatory lending practices. The data are used by the mortgage industry to inform business practices, and by local communities to ensure that lenders are serving the needs of individual neighborhoods.

To maintain the data's usefulness in serving its goals, HMDA and its implementing Regulation C have been updated and expanded over time in response to the changing needs of homeowners and the evolution of the mortgage market.[20] In 2010, Congress responded to the mortgage crisis that began in 2007 by passing the Dodd-Frank Act, which enacted changes to HMDA, as well as directed reforms to the mortgage market and broader financial system. The Dodd-Frank Act amended HMDA and transferred rulemaking authority and other functions from the Board of Governors of the Federal Reserve System (Board) to the Bureau.

In October 2015, the Bureau issued the 2015 HMDA Final Rule implementing the Dodd-Frank Act amendments to HMDA and making other changes to Regulation C. Most of the 2015 HMDA Final Rule took effect on January 1, 2018.[21] The Bureau issued additional amendments to HMDA both before and after the 2015 HMDA Final Rule took effect. First, the Bureau issued a final rule in 2017 (2017 HMDA Final Rule) amending certain requirements adopted in the 2015 HMDA Final Rule.[22] Most of the 2017 HMDA Final Rule provisions also took effect on January 1, 2018. Next, the Bureau issued an interpretive and procedural rule in 2018 (2018 HMDA Rule) to implement and clarify the requirements of section 104(a) of the Economic Growth, Regulatory Relief, and Consumer Protection Act (EGRRCPA), which was enacted in May 2018 and amended HMDA by adding partial exemptions from certain reporting requirements.[23] Additionally, the Bureau issued final rules in 2019 and 2020 (2019 and 2020 HMDA Final Rules, respectively) that amended certain aspects of Regulation C after most of the 2015 HMDA

[20] 12 CFR part 1003

[21] 80 FR 66128, 66256-57 (Oct. 28, 2015). The amendments to the institutional coverage criteria for depository institutions took effect on January 1, 2017. 12 CFR 1003.2(g)(1)(v)(A). The quarterly reporting requirements for certain larger-volume institutions took effect on January 1, 2020. 12 CFR 1003.5(a)(1)(ii).

[22] Home Mortgage Disclosure (Regulation C); 82 FR 43088 (Sept. 13, 2017).

[23] Pub. L. 115-174, 132 Stat. 1296 (2018); Partial Exemptions from the Requirements of the Home Mortgage Disclosure Act Under the Economic Growth, Regulatory Relief, and Consumer Protection Act (Regulation C), 83 FR 45325 (Sept. 7, 2018). The 2018 HMDA Rule did not amend the text of Regulation C. The Bureau later incorporated the interpretations and procedures from the 2018 HMDA Rule into Regulation C in the 2019 HMDA Final Rule.

Final Rule took effect.[24] As discussed more below, this report assesses the 2015 HMDA Final Rule and subsequent amendments. Chapter 2 of this report discusses in more detail the specific provisions of the 2015 HMDA Final Rule and the subsequent amendments evaluated in this report.

This report does not generally consider the potential effectiveness of alternative requirements to HMDA data reporting that might have been or might be adopted by the Bureau, nor does it include specific recommendations by the Bureau to modify any rules. The Bureau expects that the findings made in this report and the public comments received in response to the November 2021 RFI on its plans to conduct the review will help inform the Bureau's future policy decisions concerning HMDA reporting requirements, including whether to commence a rulemaking to make the HMDA Rule more effective in meeting its goals.

Finally, this voluntary review is not part of any formal or informal rulemaking proceedings under the Administrative Procedure Act. This report does not represent legal interpretation, guidance, or advice of the Bureau and does not itself establish any binding obligations. Only the rules and their official interpretations (commentary) establish the definitive requirements.

This report documents evidence relevant to the purposes and objectives of title X and the specific goals stated by the Bureau. However, the report generally is not organized according to these purposes, objectives, and goals. Therefore, Appendix A of this report summarizes evidence of the Rule's effectiveness in meeting the purposes and objectives of title X of the Dodd-Frank Act and the specific goals stated by the Bureau. Appendix B describes the public comments the Bureau received on the RFI and summarizes the information received on certain topics.[25]

1.1 Purpose and scope of the review

1.1.1 The HMDA Rule

This report considers the 2015 HMDA Final Rule and the subsequent HMDA rules issued in 2017, 2018, 2019, and 2020, known collectively as "the HMDA Rule." Specifically, the Bureau has incorporated into the review all rules that implicate calendar-year HMDA data beginning

[24] Home Mortgage Disclosure (Regulation C), 84 FR 57946 (Oct. 29, 2019); Home Mortgage Disclosure (Regulation C), 85 FR 28364 (May 12, 2020), *vacated in part by Nat'l Cmty. Reinvestment Coal., et al., v. Consumer Fin. Prot. Bureau*, No. 20-cv-2074, 2022 WL 4447293 (D.D.C. Sept. 23, 2022).

[25] Full comments are available at https://www.regulations.gov/document/CFPB-2021-0018-0001/comment.

with data collected in 2018 through data collected in 2021. Certain provisions in the 2020 HMDA Final Rule that did not go into effect until January 2022, such as the increase in the open-end lines of credit coverage threshold, are not being considered under this review.

Based on the modifications to reporting requirements adopted in the 2017, 2018, 2019, and 2020 rules, it is difficult to isolate the separate effects of each of the 2015 HMDA Final Rule and the related subsequent rules for this review. In many instances, the available data only allow the Bureau to estimate new reporting requirements under HMDA in aggregate. The Bureau has previously determined that considering all of these rules together facilitates a more meaningful review of the HMDA Rule.

Further, in the 2015 HMDA Final Rule the Bureau interpreted HMDA, as amended by the Dodd-Frank Act, to require that the Bureau use a balancing test to determine whether and how HMDA data should be modified prior to its disclosure to the public in order to protect applicant and borrower privacy while also fulfilling HMDA's public disclosure purposes. In 2018, the Bureau issued policy guidance describing the Bureau's application of the balancing test for data submitted in beginning in 2018 and that would be made available to the public beginning in 2019.[26] For several reasons, the Bureau considers an evaluation of the balancing test and subsequent policy guidance to be outside the scope of its review of the HMDA Rule. First, unlike other aspects of the HMDA Rule evaluated in this review, the Bureau's interpretation of its privacy obligations as reflected in the 2015 Rule's balancing test does not implicate financial institutions' reporting requirements. Second, assessing the effects of the privacy modifications made under the balancing test would be particularly difficult, because several of the modified data points have never been publicly available in unmodified form and because of the challenge involved in quantifying the value of the privacy benefit to applicants.

1.1.2 Cost-Benefit Analysis

This review does not include a cost-benefit analysis of the HMDA Rule or parts of the HMDA Rule. Nevertheless, to the extent possible based on the data the Bureau has (or could reasonably

[26] Disclosure of Loan-Level HMDA Data, 84 FR 649 (Jan. 31, 2019). The Bureau released this final policy guidance on its website on December 21, 2018. Bureau of Consumer Fin. Prot., *Consumer Financial Protection Bureau Announces Policy Guidance on Disclosure of Home Mortgage Data,* https://www.consumerfinance.gov/about-us/newsroom/consumer-financial-protection-bureau-announces-policy-guidance-disclosure-home-mortgage-data/ (Dec. 21, 2018).

collect), the report documents the benefits and costs of the Rule. Challenges related to estimating costs and benefits are described below in section 1.2.

1.1.3 Purposes and objectives of Title X of the Dodd-Frank Act

The purposes and objectives of title X of the Dodd-Frank Act are set out in section 1021 of the Act. Pursuant to section 1021(a), the purpose of the Bureau is to implement and, where applicable, enforce Federal consumer financial law consistently for the purpose of ensuring that all consumers have access to markets for consumer financial products and services and that markets for consumer financial products and services are fair, transparent, and competitive.[27] Section 1021(b) lists the objectives of the Bureau and, more specifically, provides that the Bureau is authorized to exercise its authorities under Federal consumer financial law for the purposes of ensuring that, with respect to consumer financial products and services:

1. Consumers are provided with timely and understandable information to make responsible decisions about financial transactions;

2. Consumers are protected from unfair, deceptive, or abusive acts and practices and from discrimination;

3. Outdated, unnecessary, or unduly burdensome regulations are regularly identified and addressed in order to reduce unwarranted regulatory burdens;

4. Federal consumer financial law is enforced consistently, without regard to the status of a person as a depository institution, in order to promote fair competition; and

5. Markets for consumer financial products and services operate transparently and efficiently to facilitate access and innovation.[28]

[27] 12 U.S.C. § 5511(a).

[28] 12 U.S.C. § 5511(b).

1.1.4 Goals of the HMDA Rule

The goals of the HMDA Rule can be found in the HMDA statute[29], and in the HMDA rulemaking documents as published in the *Federal Register*.

The purposes of HMDA are to provide the public with loan data that can be used: (i) to help determine whether financial institutions are serving the housing needs of their communities; (ii) to assist public officials in distributing public-sector investment so as to attract private investment to areas where it is needed; and (iii) to assist in identifying possible discriminatory lending patterns and enforcing antidiscrimination statutes.[30] Chapter 2 reviews the purposes of HMDA in more detail.

HMDA is not principally focused on regulating the interactions between lenders and borrowers. Instead, HMDA requires financial institutions to report detailed information to their Federal supervisory agencies and to the public about mortgage applications, originations, and purchases at the transaction level. Such information provides an important public good that illuminates the lending activities of financial institutions and the mortgage market in general.

Section 1094 of the Dodd-Frank Act amended HMDA to improve the utility of the HMDA data and revise Federal agency rulemaking and enforcement authorities.[31] As described in more detail in Chapter 2, the Dodd-Frank Act expanded the scope of information relating to mortgage applications and loans that must be collected, reported, and disclosed under HMDA. The Bureau viewed the implementation of the Dodd-Frank Act changes to HMDA as an opportunity to assess other ways to improve upon the data collected, reduce unnecessary burden on financial institutions, and streamline and modernize the manner in which financial institutions collect and report HMDA data[32].

Generally speaking, the Bureau in this review was able to evaluate considerable evidence regarding the effectiveness of the Rule in meeting its goals and purposes. These data are presented and analyzed throughout the report and summarized in Appendix A.

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[29] 12 U.S.C. 2801(b); 12 CFR part 1003

[30] 12 CFR 1003.1

[31] Dodd-Frank Act, Pub. L. 111-203, sec. 1094, 124 Stat. 1376, 2097 (2010).

[32] 79 FR 51731 (Aug. 29, 2014). *See also* Press Release, Bureau of Consumer Fin. Prot., *CFPB Proposes Rule to Improve Information About Access to Credit in the Mortgage Market* (July 24, 2014), https://www.consumerfinance.gov/about-us/newsroom/cfpb-proposes-rule-to-improve-information-about-access-to-credit-in-the-mortgage-market/.

1.2 Methodology, data sources, and plan for assessing effectiveness

In general, the Bureau's methodology for the review consisted of three steps:

- First, the Bureau considered the potential relevant effects of the HMDA Rule at a high level. These effects are the intended and unintended consequences of the HDMA Rule that would potentially be useful in evaluating whether the HMDA Rule, or a specific HMDA Rule requirement, furthers the goals of the HMDA Rule that were stated at the time of the rulemaking, including those relevant to whether the HMDA Rule was effective in meeting the purposes and objectives of title X of the Dodd-Frank Act and the specific goals of the Bureau or other relevant factors.

- Second, to the extent possible the Bureau developed quantitative measures of the HMDA Rule's potential effects and identified relevant data that could be used to measure them. The Bureau also considered broader qualitative factors that could provide insight into the effects of the HMDA Rule.

- Third, the Bureau analyzed available data and considered whether (and with what certainty) the HMDA Rule, or a specific HMDA Rule requirement, furthered the goals of the HMDA Rule that were stated at the time of the rulemakings and, as relevant, the purposes and objectives of title X of the Dodd-Frank Act. In doing so, where possible, the Bureau compared the observed measures to what those measures would be under a counterfactual or "baseline."

1.2.1 Research questions and potential effects of the Rule

This report's research questions are organized into four broad categories: (i) institutional and transactional coverage (Chapter 3), (ii) data points (Chapter 4), (iii) benefits of the new data and disclosure requirements[33] (Chapter 5), and (iv) operational and compliance costs (Chapter 6).[34] The specific research questions are described in the relevant chapters of this report.

To develop its research questions, the Bureau consulted many sources to learn about potential effects of the HMDA Rule. The Bureau anticipated some benefits and costs of the Rule, and

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[33] The Bureau considers an evaluation of the balancing test used to determine whether and how HMDA data should be modified prior to its disclosure to the public to protect applicant and borrower privacy to be outside the scope of its review of the HMDA Rule.

[34] In the context of this review, a research question is a question about a potential effect of the HMDA Rule that can be answered with appropriate data and analysis.

these were discussed in the 2015 HMDA Final Rule, related amendments, and concurrent public statements. To learn about potential unanticipated effects of the HMDA Rule, the Bureau conducted literature surveys and met with HMDA reporters. In addition, as stated above, the Bureau published the November 2021 RFI that, among other things, described and requested comment on the Bureau's voluntary review plan and other issues relevant to informing the review.[35] The relevant comments the Bureau received generally proposed either broad goals without specific analyses, or specific amendments for the Bureau to consider. These suggestions were broadly consistent with the relevant topic areas described in the November 2021 RFI, so the research questions addressed by this review are substantially similar to those topics posed in the November 2021 RFI.[36] The Bureau also received comments regarding the scope of Bureau's assessment plan, the finding that the HMDA Rule was not significant, and the decision to conduct a voluntary assessment. These comments are discussed in more detail in Appendix B.

1.2.2 Data sources and measures

This section briefly describes the data sources the Bureau used in conducting this review. Appendix C provides an exhaustive list of data sources and describes each in detail. In conducting the review, the Bureau assessed available public sources of information and data. The Bureau also assessed information it obtained through various channels in the normal course of its work and responses to the November 2021 RFI. The Bureau also engaged in limited outreach with HMDA reporters to understand better the economic impacts of the HMDA Rule as part of its proposed approach to the review. Described below are the principal sources of data that the Bureau has found most informative and on which the findings in this report are primarily based. The specific measures drawn from these data sources and used to answer the review's research questions are described along with the respective research questions in the body of this report.

The following data sources were available through ongoing or prior Bureau work before the Bureau began this voluntary review:

Bank and Credit Union Call Reports.[37] The call report data include the Federal Financial Institutions Examination Council's (FFIEC) call reports and the National Credit Union

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[35] November 2021 RFI at 66228-29.

[36] Appendix B describes the public comments the Bureau received and summarizes the information received on certain topics. Full comments are available on Regulations.gov.

[37] According to the FDIC, "every national bank, state member bank, insured state nonmember bank, and savings association…is required to file Consolidated Reports of Condition and Income (a 'Call Report') as of the close of business on the last day of each calendar quarter, *i.e.*, the report date", Fed. Deposit Ins. Corp., *Bank Financial Reports, Consolidated Reports of Condition and Income,* https://www.fdic.gov/resources/bankers/bank-financial-reports/ (last updated Mar. 21, 2022).

Administration (NCUA) call reports. The FFIEC data contain call report information from state member banks, state nonmember banks, national banks, and savings associations, while the NCUA data contain call report information from federal credit unions that are regulated by the NCUA. The data do not include non-depository institutions. The data for both sets of call reports include aggregate, institution-level data with income and balance sheet information that is reported quarterly.

Home Mortgage Disclosure Act (HMDA) Data. Application-level information on most mortgages and mortgage applications in the United States. The dataset used is the Federal Agency HMDA data, which includes additional fields that are not disclosed in the publicly available HMDA data. The Bureau uses these data to measure market-wide shifts over time in the characteristics of new mortgage originations and applications.

National Mortgage Database (NMDB). A nationally representative five percent sample of residential mortgages in the United States containing origination data and quarterly loan performance data.

American Community Survey (ACS). Information from the U.S. Census Bureau on demographic, social, economic, and housing characteristics about the American population collected through a nationally representative survey.

National Information Center (NIC). A repository of financial data and institution characteristics – such as banking structure, supervisory, and certain financial data – collected by the Federal Reserve System.

The Bureau's researchers also reviewed information in the approximately 40 comments the Bureau received in response to the November 2021 RFI. In addition to the primary sources of data discussed above, the Bureau reviewed a number of secondary sources of information, including reports suggested by commenters discussed above, the reports of other federal agencies, and published research on the mortgage market and the HMDA Rule.[38] This report discusses and cites these reports in the relevant sections below.

1.2.3 Analysis and challenges to assessing effectiveness

Wherever possible, this review analyzed available data to estimate changes in measures (such as mortgage market coverage ratios) and determined whether these changes are attributable to the

[38] Again, Appendix C describes the information the Bureau considered in conducting the review in more detail, including the source of information, limitations of the data, and summary statistics.

HMDA Rule. However, in many cases this analysis was not possible given the data available to the Bureau during this review.

The primary challenge to this analysis is establishing a counterfactual—what would have occurred were it not for the HMDA Rule—to provide a baseline for evaluating the effects of the HMDA Rule. In the 2015 HMDA Final Rule, the Bureau's 1022(b) analysis considered the benefits, costs, and impacts of the major provisions of the final rule against a pre-Dodd-Frank Act baseline, *i.e.*, the then-current state of the world before the provisions of the Dodd-Frank Act that amended HMDA were implemented by the Bureau's amendments to Regulation C. The Bureau's task in this report is similar.

Specifying a baseline against which to evaluate a rule's effects is necessary for both forecasting the future effects of proposed regulations and evaluating the historical effects of adopted regulations.[39] In empirical analysis such as this, a counterfactual to an event or change is often established by taking measurements from a group that is similar to the affected group but which itself was not affected by the change. When a regulation has already taken effect, it is often not possible to find a group of firms or part of the market that is neither subject to the rule nor indirectly affected by the rule—but is nevertheless subject to the same other determinants of prices, quantities and other market outcomes—such that data about those firms or that market provide a baseline for evaluating the effects of the rule. In particular cases, it may be possible to define a specific set of outcomes that can serve as a baseline. For example, it may be generally agreed that the purpose of the rule is to increase (or reduce) particular outcomes relative to some observed or specified benchmark. In general, however, retrospective analysis requires making a formal or informal forecast of the market absent a rule, or absent a specific provision of a rule, to serve as the baseline, and data limitations make this difficult to do in practice.

Establishing a baseline for the HMDA Rule also presents a separate challenge. In empirical analysis, establishing a baseline would enable the evaluation of the impact of the HMDA Rule itself by comparing relevant outcomes both before and after the HMDA Rule went into effect. This process is difficult for the Bureau's review of the HMDA Rule for a number of reasons. Most of the 2015 HMDA Final Rule took effect on January 1, 2018, while other provisions of the

[39] See, e.g., Joseph E. Aldy, Learning from Experience: An Assessment of the Retrospective Reviews of Agency Rules and the Evidence for Improving the Design and Implementation of Regulatory Policy, Harvard Kennedy School (Nov. 17, 2014), https://www.acus.gov/report/retrospective-review-report (prepared for consideration of the Administrative Conference of the United States) ("In evaluating the efficacy, benefits, and costs of any individual regulation, an analyst must make a determination about the counterfactual, i.e., what would have happened in the absence of the regulation. In ex ante analysis, this requires constructing an alternative future scenario, or baseline, from which to assess the impacts of the proposed regulation. In ex post analysis, this requires constructing an alternative historic scenario for comparison with the implemented regulation. The choice of counterfactual can be quite challenging and subject to criticism.") Id. at 62-63. See also the extensive list of references contained therein.

2015 HMDA Final Rule took effect on January 1, 2017 and January 1, 2020.[40] Subsequent amendments under consideration for this review took effect in stages from 2018 to 2020.[41]

Further, after issuing the 2015 HMDA Final Rule, the Bureau modernized the HMDA submission system and made other operational changes that were initially discussed in the impact analyses of the 2015 HMDA Final Rule.[42] These changes were implemented in 2018 for data collected in 2017, and the Bureau received feedback from reporting entities that these new systems and improvements generally indicate substantial cost savings,[43] which may affect estimates of the impact of the HMDA Rule.

For purposes of this review, the Bureau has generally used a baseline that is the market absent the HMDA Rule as a whole (in other words, the market before any of the 2015 HMDA Final Rule or later amendments went into effect) or the specific HMDA Rule provisions being evaluated, but inclusive of the operational improvements that were implemented for the data collected in 2017 and reported in 2018. Where it is not possible to reliably estimate the counterfactual value of a measure, the analyses rely on comparing measures before and after the HMDA Rule took effect. This is an imperfect approximation of the effect of the HMDA Rule because it does not consider how the market would have changed were it not for the HMDA Rule. This approach can establish correlations between the HMDA Rule and changes in measures—however, it does not permit the Bureau to differentiate between whether such changes (or lack thereof) were caused in part by the HMDA Rule or instead by some other factors in the marketplace.

Given the challenges and limitations of analysis in this report, this report: (1) is cautious about attributing observed changes to the HMDA Rule; (2) attempts to identify possible alternative explanations for changes; and (3) attempts to present evidence in a way that readers can themselves gauge the strength of the evidence of particular effects.

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40 80 FR 66128, 66256-57 (Oct. 28, 2015). The amendments to the institutional coverage criteria for depository institutions took effect on January 1, 2017. 12 CFR 1003.2(g)(1)(v)(A). The quarterly reporting requirements for certain larger-volume institutions took effect on January 1, 2020. 12 CFR 1003.5(a)(1)(ii).

41 As mentioned previously, certain provisions in the 2020 HMDA Final Rule that did not go into effect until January 2022, such as the increase in the open-end coverage threshold, are not considered under this review.

42 For example, the Bureau created a web-based submission tool with automated edit checks and otherwise streamlined the submission and editing process to make it more efficient for filers. In addition, the Bureau consolidated the outlets for assistance, provided implementation support, and improved points of contact processes for help inquiries. These changes were implemented in 2018 for the 2017 HMDA data. The Bureau has received feedback from reporting entities on the new systems, which generally indicate substantial costs savings.

43 Home Mortgage Disclosure (Regulation C), 84 FR 57946, 57972 (Oct. 29, 2019).

1.3 Report overview

Chapter 2 provides background for, and an overview of, the HMDA Rule. Chapter 3 focuses on the changes to institutional and transactional coverage. Chapter 4 considers new and revised data points. Chapter 5 discusses benefits of the new data and disclosure requirements, and Chapter 6 presents our operational and compliance costs analysis.

2. The HMDA Rule

2.1 Overview of the HMDA Rule requirements

This section describes the scope and major substantive provisions of the HMDA Rule.[44]

2.1.1 Scope of the HMDA Rule

The HMDA Rule applies to depository institutions and for-profit nondepository institutions that meet the definition of a financial institution. It requires financial institutions to collect, report, and disclose data about originations and purchases of certain dwelling-secured mortgage loans (covered loans), as well as applications for covered loans that do not result in originations (for example, applications that are denied or withdrawn). The HMDA Rule applies to closed-end mortgage loans and open-end lines of credit, including loans secured by a multifamily dwelling. Before the 2015 HMDA Final Rule took effect, home equity lines of credit were optionally reported. The HMDA Rule specifically excludes certain loans from coverage, such as those used primarily for agricultural purposes and temporary financing.

2.2 Statutory background

Congress enacted HMDA in 1975 to create transparency in the mortgage market.[45] The Board of Governors of the Federal Reserve System (Board) implemented HMDA by promulgating Regulation C in 1976. As originally enacted, HMDA applied to certain depository institutions that were located in standard metropolitan statistical areas (MSAs) and required the disclosure of a limited amount of data regarding home improvement and residential mortgage loans. At the time of enactment, HMDA identified its purposes as providing the public and public officials with information to help determine whether financial institutions are serving the housing needs

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[44] As explained in Chapter 1, except as otherwise noted, the Bureau refers to the 2015 HMDA Final Rule and the subsequent HMDA rules issued in 2017, 2018, 2019, and 2020 collectively as "the HMDA Rule." Certain provisions in the 2020 HMDA Final Rule that did not go into effect until January 2022, such as the increase in the open-end coverage threshold, were not considered under this review.

[45] Pub. L. 94-200, secs. 301-310, 89 Stat. 1124, 1125-28 (1975). HMDA was originally set to expire after four years but was temporarily extended several times before Congress made it permanent in 1988. Pub. L. 100-242, sec. 565, 101 Stat. 1815, 1945 (1988). *See* 79 FR 51731, 51735-36 (Aug. 29, 2014).

of the communities in which they are located, and to assist public officials in their determination of the distribution of public sector investments in a manner designed to improve the private investment environment.[46]

Concerns over discrimination against certain applicants and borrowers during the mortgage lending process, coupled with the need to respond to the savings and loan crisis of the late 1980s, led Congress to amend HMDA significantly in 1988 and 1989.[47] These amendments, among other things, expanded the coverage of depository and nondepository institutions, required transaction-level disclosure of applications and loans, and added new reporting requirements regarding the applicant's or borrower's race, gender, and income. Following these amendments, the Board recognized a third HMDA purpose of identifying possible discriminatory lending patterns and enforcing antidiscrimination statutes.[48]

The mortgage market evolved and became more complex during the 1990s,[49] particularly with respect to the expansion of the secondary market and the growth of the subprime market.[50] Delinquencies, foreclosures, and other negative outcomes rose in the mid-2000s. Policymakers concluded that communities throughout the nation lacked sufficient information to understand the magnitude of the risk to which they were exposed.[51] Congress began drafting and proposing changes to HMDA that would increase the public availability of mortgage market data, and the Board revised Regulation C shortly after the 2007 mortgage crisis began.[52]

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[46] HMDA section 302(b), 12 U.S.C. 2801(b); *see also* 12 CFR 1003.1(b)(1)(i)-(ii).

[47] Financial Institutions Reform, Recovery, and Enforcement Act of 1989 (FIRREA), Pub. L. 101-73, sec. 1211, 103 Stat. 183, 524-26 (1989); Pub. L. 100-242, sec. 565, 101 Stat. 1815, 1945 (1988); 53 FR 31683 (Aug. 19, 1988). Additionally, in 1980 Congress amended HMDA to require the newly established Federal Financial Institutions Examination Council (FFIEC) to prepare and publish aggregate data tables for each standard MSA. Housing and Community Development Act of 1980, Pub. L. 96-399, sec. 340, 94 Stat. 1614, 1657-58 (1980).

[48] 54 FR 51357 (Dec. 15, 1989); 12 CFR 1003.1(b)(1)(iii).

[49] Congress amended HMDA in 1992 to require certain depository institutions to make public disclosures, upon request, of loan application register information. Housing and Community Development Act of 1992, Pub. L. 102–550, sec. 932, 106 Stat. 3672, 3889-91 (1992).

[50] 80 FR 66128, 66130 (Oct 28, 2015). The Board addressed some of these concerns by amending Regulation C in 2002. *See* 67 FR 7222 (Feb. 15, 2002); 67 FR 30771 (May 8, 2002); 67 FR 43218 (June 27, 2002). The amendments to Regulation C improved the usefulness of the HMDA data, especially with respect to fair lending concerns, but the addition of a limited number of loan pricing variables only modestly addressed the need for increased transparency in the subprime mortgage market. *See* Patricia A. McCoy, *The Home Mortgage Disclosure Act: A Synopsis and Recent Legislative History*, 20(4) Journal of Real Estate Research 381, 388 (2007).

[51] *See* 80 FR 66128, 66130 (Oct 28, 2015).

[52] *See* 79 FR 51731, 51739 (Aug. 29, 2014); 73 FR 63329 (Oct. 24, 2008).

In 2010, Congress enacted the Dodd-Frank Act, which amended HMDA again and transferred HMDA rulemaking authority and other functions from the Board to the Bureau.[53] Among other changes, the Dodd-Frank Act expanded the scope of information relating to mortgage applications and loans that institutions must collect, maintain, and report under HMDA. The Dodd-Frank Act also authorized the Bureau to require, in its discretion, that institutions collect, maintain, and report additional information under HMDA.

2.3 Development of the HMDA Rule

This section provides an overview of the Bureau's development of the HMDA Rule. It describes the lead up to the 2015 HMDA Final Rule and includes brief descriptions of the subsequent amendments. More detailed information on the HMDA Rule's development is contained in the 2015 HMDA Final Rule as well as in the subsequent amendments issued in 2017, 2018, 2019, and 2020.

2.3.1 Public and Industry Outreach Before 2014 Proposed Rule

The Board began a reassessment of HMDA in the aftermath of the financial crisis, as Congress was considering the legislation that later became the Dodd-Frank Act. In 2010, the Board convened public hearings on potential revisions to Regulation C (Board's 2010 Hearings).[54] Among other things, participants addressed whether the Board should require reporting from additional types of institutions, whether certain types of institutions should be exempt from reporting, and whether any other changes should be made to the rules for determining which types of institutions must report data. Additionally, participants provided suggestions about ways to improve the utility of HMDA data, including modifications to the data fields currently collected in Regulation C that may clarify reporting requirements and data fields that could be added to the data collected under HMDA. In developing its 2014 proposal to amend Regulation C, the Bureau, through outreach and meetings with stakeholders, built on the feedback received during the Board's 2010 HMDA hearings. The Bureau also conducted meetings and solicited feedback through correspondence and Federal Register notices.[55]

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[53] Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. 111–203, 124 Stat. 1376, 1980, 2035-38, 2097-101 (2010).

[54] *See* 75 FR 35030 (June 21, 2010).

[55] 76 FR 31222 (May 31, 2011); 76 FR 43570 (Jul. 21, 2011); 76 FR 75825 (Dec. 5, 2011); 76 FR 78465 (Dec. 19, 2011).

In February 2014, the Bureau convened a Small Business Review Panel on HMDA under the Small Business Regulatory Enforcement Fairness Act (SBREFA) in coordination with the Chief Counsel for Advocacy of the Small Business Administration (SBA) and the Administrator of the Office of Information and Regulatory Affairs within the Office of Management and Budget (OMB).[56] The Small Business Review Panel gathered information from representatives of small commercial banks and savings institutions, credit unions, and mortgage companies (*i.e.*, nondepository mortgage lenders) and made findings and recommendations regarding the potential compliance costs and other effects of the proposals under consideration on those entities. These findings and recommendations are set forth in the Small Business Review Panel Report.[57]

2.3.2 2014 Proposed Rule

On July 24, 2014, the Bureau issued a proposed rule to amend Regulation C, which was published in the Federal Register on August 29, 2014.[58] The Bureau received approximately 400 comments on the proposal during the comment period from, among others, consumer groups; national, state, and regional industry trade associations; banks, community banks, credit unions, software providers, housing counselors; Federal agencies, including the Office of Advocacy of the Small Business Administration (SBA); and individual consumers and academics.

2.3.3 2015 HMDA Final Rule

In the 2015 HMDA Final Rule, the Bureau implemented the Dodd-Frank Act amendments to HMDA and made other changes to Regulation C. The 2015 HMDA Final Rule modified the types of institutions and transactions subject to Regulation C, including by adopting new loan volume thresholds for determining which institutions are covered under Regulation C and must report HMDA data for their closed-end mortgage loans and open-end lines of credit (coverage thresholds, collectively). The 2015 HMDA Final Rule also modified the types of data that institutions are required to collect and report by adding new data points to Regulation C and revising certain pre-existing data points. Additionally, the 2015 HMDA Final Rule revised the

[56] The Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA) requires the Bureau to convene a Small Business Review Panel before proposing a rule that may have a substantial economic impact on a significant number of small entities. *See* Pub. L. 104-121, tit. II, 110 Stat. 847, 857 (1996) (as amended by Pub. L. No. 110-28, sec. 8302, 121 Stat. 204 (2007)).

[57] Bureau of Consumer Fin. Prot., Final Report of the Small Business Review Panel on the CFPB's Proposals Under Consideration for the Home Mortgage Disclosure Act (HMDA) Rulemaking (Apr. 24, 2014), https://files.consumerfinance.gov/f/201407_cfpb_report_hmda_sbrefa.pdf.

[58] 79 FR 51731 (Aug. 29, 2014).

processes for financial institutions to report and disclose the required data and the determination of which data would be publicly disclosed.[59]

2.3.4 Amendments to the 2015 HMDA Final Rule

The Bureau has amended the 2015 HMDA Final Rule several times since it was issued. Below is an overview of these amendments.[60]

2017 HMDA Final Rule

In August 2017, the Bureau issued the 2017 HMDA Final Rule, which made technical corrections to, and clarified certain requirements adopted by, the 2015 HMDA Final Rule. This rule also increased temporarily the open-end coverage threshold for calendar years 2018 and 2019.

2018 HMDA Rule

In 2018, Congress enacted the Economic Growth, Regulatory Relief, and Consumer Protection Act (EGRRCPA).[61] Section 104(a) of the EGRRCPA amended HMDA section 304(i) by adding partial exemptions (but not complete exclusions) from HMDA's requirements for certain insured depository institutions and insured credit unions. The EGRRCPA provides that an insured depository institution or insured credit union does not need to collect or report certain data points with respect to its closed-end mortgage loans if it originated fewer than 500 closed-end mortgage loans in each of the two preceding calendar years. Similarly, the EGRRCPA provides that an insured depository institution or insured credit union does not need to collect or report certain data points with respect to open-end lines of credit if it originated fewer than 500 open-end lines of credit in each of the two preceding calendar years. In August 2018, the Bureau issued the 2018 HMDA Rule to implement and clarify the requirements of section 104(a) of the EGRRCPA.[62]

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[59] 80 FR 66128 (Oct. 28, 2015). As discussed in section 2.4.4, the Bureau explained in the 2015 HMDA Final Rule that it interpreted HMDA, as amended by the Dodd-Frank Act, to call for the use of a balancing test to determine whether and how HMDA data should be modified prior to its disclosure to the public; the Bureau applied that balancing test in final policy guidance issued in December 2018 that described the loan-level HMDA data the Bureau intended to make available to the public. 84 FR 649 (Jan. 31, 2019).

[60] This section provides a high-level overview of each of the rules, with details of the rules' major provisions discussed in section 2.4.

[61] Pub. L. 115-174, 132 Stat. 1296 (May 24, 2018).

[62] 83 FR 45325 (Sept. 7, 2018).

2019 HMDA Final Rule

In October 2019, the Bureau issued the 2019 HMDA Final Rule, which extended for two years, until January 1, 2022, the temporary increase in the open-end coverage threshold adopted by the 2017 HMDA Final Rule. This rule also incorporated into Regulation C the interpretations and procedures from the 2018 HMDA Rule and implemented further the EGRRCPA.[63]

2020 HMDA Final Rule

In April 2020, the Bureau issued the 2020 HMDA Final Rule, which increased the closed-end coverage threshold effective July 1, 2020, and increased the permanent open-end coverage threshold effective January 1, 2022, upon the expiration of the temporary threshold extended by the 2019 HMDA Final Rule.[64] A subsequent court decision vacated the 2020 HMDA Final Rule's increase to the closed-end threshold. Accordingly, the closed-end threshold is 25, originally established in g the 2015 HMDA Final Rule.[65]

2.4 Major Provisions of the HMDA Rule

This section discusses the major provisions of the HMDA Rule. The HMDA Rule contains four major elements: (1) institutional coverage and loan-volume thresholds; (2) transactional coverage; (3) data points; and (4) disclosure and reporting requirements.[66] In general, this report analyzes the effectiveness of the HMDA Rule's provisions summarized in this section in later chapters. As discussed in Chapter 1, these major provisions of the HMDA Rule are included in, but do not comprise the entirely of, the four broad categories of this report's research questions.[67]

Institutional coverage and loan-volume thresholds

Regulation C implements HMDA's requirement that financial institutions report HMDA data. Section 1003.2(g) defines "financial institution" for purposes of Regulation C and sets forth

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63 84 FR 57946 (Oct. 29, 2019).

64 85 FR 28364 (May 12, 2020).

65 *Nat'l Cmty. Reinvestment Coal., et al., v. Consumer Fin. Prot. Bureau*, No. 20-cv-2074, 2022 WL 4447293 (D.D.C. Sept. 23, 2022).

66 For details explaining the rationale behind each of these provisions, refer to the preamble discussion in each of the HMDA rules.

67 As stated in Chapter 1, this report's research questions are organized into four broad categories: (i) institutional and transactional coverage (Chapter 3), (ii) data points (Chapter 4), (iii) benefits of the new data and disclosure requirements (Chapter 5), and (iv) operational and compliance costs (Chapter 6).

Regulation C's institutional coverage criteria for depository financial institutions and nondepository financial institutions.[68] The HMDA Rule amended the Board's pre-existing institutional coverage criteria that determine which institutions meet the definition of financial institution and are therefore required to report HMDA data.

The HMDA Rule includes uniform coverage thresholds based on loan origination volume that determine, in part, whether institutions are required to collect, record, and report any HMDA data on closed-end mortgage loans or open-end lines of credit. Under the institutional coverage criteria set forth in the HMDA Rule, depository institutions and nondepository institutions are required to report HMDA data if they: (1) meet either the closed-end or open-end coverage threshold in each of the two preceding calendar years, and (2) meet all of the other applicable criteria for institutional coverage. Financial institutions that meet only the closed-end coverage threshold are not required to report data on their open-end lines of credit, and financial institutions that meet only the open-end coverage threshold are not required to report data on their closed-end mortgage loans.[69]

The Bureau has amended the coverage thresholds several times since the enactment of the Dodd-Frank Act. The 2015 HMDA Final Rule set the closed-end coverage threshold at 25 closed-end mortgage loans and the open-end coverage threshold at 100 open-end lines of credit. As a result, an institution that originated at least 25 closed-end mortgage loans or at least 100 open-end lines of credit in each of the two preceding calendar years, and met all of the other applicable criteria for institutional coverage, met the definition of financial institution and was required to report HMDA data.

Prior to the open-end threshold set in the 2015 HMDA Final Rule taking effect, in the 2017 HMDA Final Rule the Bureau increased temporarily the open-end coverage threshold from 100 to 500 open-end lines of credit for calendar years 2018 and 2019. In the 2019 HMDA Final Rule, the Bureau extended the temporary increase in the open-end coverage threshold for two additional years, until January 1, 2022.[70] Effective January 1, 2022, the 2020 HMDA Final Rule sets the open-end coverage threshold at 200 open-end lines of credit, meaning that financial institutions originating at least 200 open-end lines of credit in each of the two preceding calendar years must report such data. The 2020 HMDA Final Rule also increased the closed-end

[68] 12 CFR 1003.2(g)(1) (definition of depository financial institution); § 1003.2(g)(2) (definition of nondepository financial institution).

[69] 80 FR 66128, 66173 (Oct. 28, 2015).

[70] 82 FR 43088 (Sept. 13, 2017); 84 FR 57946 (Oct. 29, 2019).

coverage threshold, from 25 to 100 closed-end mortgage loans.[71] As mentioned earlier, a subsequent court decision vacated the 2020 HMDA Final Rule's increase to the closed-end threshold. Accordingly, the closed-end threshold is 25, originally established in the 2015 HMDA Final Rule.

TABLE 1: CLOSED-END REPORTING THRESHOLD

	HMDA Calendar Year					
Final Rule Year	2018	2019	2020	2021	2022	2023
2015	25	25	25	25	25	25
2017						
2018						
2019						
2020			100	100		

NOTE: UNDERLINED FIELDS REFER TO THE THRESHOLDS FOR WHICH DATA WAS OR WOULD BE ACTUALLY REPORTED.

TABLE 2: OPEN-END REPORTING THRESHOLD

	HMDA Calendar Year					
Final Rule Year	2018	2019	2020	2021	2022	2023
2015	100	100	100	100	100	100
2017	500	500	100	100	100	100
2018						
2019			500	500	100	100
2020					200	200

[71] 85 FR 28364 (May 12, 2020). On October 9, 2020, the Bureau corrected several clerical errors in the Supplementary Information to the 2020 HMDA Final Rule, regarding the estimated cost savings in annual ongoing costs from various possible closed-end coverage thresholds.

NOTE: UNDERLINED FIELDS REFER TO THE THRESHOLDS FOR WHICH DATA WAS OR WOULD BE ACTUALLY REPORTED.

TABLE 3: PARTIAL EXEMPTIONS FROM REPORTING CERTAIN DATA POINTS FOR ELIGIBLE DEPOSITORY INSTITUTIONS AND CREDIT UNIONS

	HMDA Calendar Year					
Final Rule Year	2018	2019	2020	2021	2022	2023
2015	Full Reporting	Full Reporting	Full Reporting	Full Reporting	Full Reporting	Full Reporting
2017						
2018/EGRRCPA	Partial Exemption	Partial Exemption	Partial Exemption	Partial Exemption	Partial Exemption	Partial Exemption
2019						
2020						

NOTE: UNDERLINED FIELDS REFER TO THE THRESHOLDS FOR WHICH DATA WAS OR WOULD BE ACTUALLY REPORTED. THE 2018 HMDA RULE INTERPRETED THE EGRRCPA TO FACILITATE QUICK IMPLEMENTATION; THE 2019 HMDA FINAL RULE FORMALLY INCORPORATED THE PARTIAL EXEMPTIONS INTO REGULATION C.

For depository institutions, in addition to adopting the new loan-volume coverage thresholds, the HMDA Rule retained other institutional coverage criteria that pre-dated the 2015 HMDA Final Rule. The pre-existing criteria require reporting by depository institutions that: (1) satisfy an asset-size threshold; (2) have a branch or home office in an MSA on the preceding December 31; (3) satisfy the "federally related" test; and (4) originate at least one first-lien home purchase loan or refinancing secured by a one- to four-unit dwelling in the previous calendar year.

For nondepository institutions, the HMDA Rule adopted the new loan-volume coverage thresholds and removed the pre-existing institutional coverage tests based on asset-size or loan originations and total loan amounts. The HMDA Rule retained the criterion that the institution had a branch or home office in an MSA on the preceding December 31.

2.4.1 Transactional coverage

HMDA requires financial institutions to collect and report information about "mortgage loans," which HMDA section 303(2) defines as loans secured by residential real property or home improvement loans. In the HMDA Rule, the Bureau modified Regulation C's transactional coverage in several ways.

First, the HMDA Rule requires some financial institutions to report data on their open-end lines of credit.[72] Before the 2015 HMDA Final Rule took effect, Regulation C allowed, but did not require, any financial institution to report home-equity lines of credit. As discussed in section 2.4.1 above, the HMDA Rule requires financial institutions that meet the loan-volume coverage threshold for open-end lines of credit in each of the two preceding calendar years to report data on these transactions.

Additionally, the HMDA Rule moved away from the pre-2015 HMDA Final Rule "loan purpose" test and adopted a dwelling-secured standard for all loans or lines of credit that are for personal, family, or household purposes. In general, prior to the 2015 HMDA Final Rule taking effect, financial institutions were required to report information about closed-end applications and loans made for one of three purposes: home improvement, home purchase, or refinancing. Under the HMDA Rule, most consumer-purpose extensions of credit secured by a lien on a dwelling are subject to Regulation C, including closed-end home-equity loans, home-equity lines of credit, and reverse mortgages. Regulation C no longer requires reporting of home improvement loans that are not secured by a dwelling (*i.e.*, home improvement loans that are unsecured or that are secured by some other type of collateral).[73]

The HMDA Rule also requires reporting applications for, and originations of, dwelling-secured business- or commercial-purpose closed-end mortgage loans and open-end lines of credit for home purchase, refinancing, or home improvement purposes. Before the 2015 HMDA Final Rule took effect, Regulation C covered closed-end, business- or commercial-purpose loans made to purchase, refinance, or improve a dwelling. As discussed above, the Bureau replaced the "loan purpose" test for consumer-purpose transactions in the HMDA Rule but retained this coverage criteria for business- or commercial-purpose transactions. Thus, the HMDA Rule revised coverage of business- or commercial-purpose transactions by: (1) adding the dwelling-secured test in addition to the pre-existing loan purpose test, and (2) requiring reporting of dwelling-secured, business- or commercial-purpose open-end lines of credit for the purpose of home purchase, refinancing, or home improvement.

[72] The 2015 HMDA Final Rule defined "open-end line of credit" as an extension of credit that: (1) Is secured by a lien on a dwelling; and (2) Is an open-end credit plan as defined in Regulation Z, 12 CFR 1026.2(a)(20), but without regard to whether the credit is consumer credit, as defined in § 1026.2(a)(12), is extended by a creditor, as defined in § 1026.2(a)(17), or is extended to a consumer, as defined in § 1026.2(a)(11). 12 CFR 1003.2(p).

[73] Before the 2015 HMDA Final Rule took effect, Regulation C required closed-end home purchase loans and refinancings to be reported if they were dwelling-secured and required closed-end home improvement loans to be reported whether or not they were dwelling-secured.

2.4.2 Data points

Prior to the enactment of the Dodd-Frank Act, Regulation C required collection and reporting of 22 data points and allowed for optional reporting of one data point: the reasons for which an institution denied an application (reasons for denial). The 2015 HMDA Final Rule implemented the new data points specified in the Dodd-Frank Act, added additional data points pursuant to the Bureau's discretionary authority under HMDA section 304(b)(5) and (6), and revised certain pre-existing Regulation C data points. The 2018 HMDA Rule and 2019 HMDA Final Rule clarified which of the data points in Regulation C are covered by the EGRRCPA partial exemptions.[74]

In the 2015 HMDA Final Rule, the Bureau added the following data points to Regulation C to implement specific provisions added by the Dodd-Frank Act in HMDA section 304(b)(4), (5)(A) through (C), and (6)(A) through (I): universal loan identifier (ULI);[75] property address; age of the applicant/borrower; rate spread for all loans;[76] credit score; total loan costs or total points and fees; prepayment penalty term; loan term; introductory rate period; non-amortizing features; property value; application channel; and mortgage loan originator identifier.[77]

Additionally, the 2015 HMDA Final Rule added the following additional data points pursuant to the Bureau's discretionary authority under HMDA section 304(b)(5) and (6): reasons for denial, which were optionally reported under the Board's rule but became mandatory in the HMDA Rule; total origination charges associated with the loan (origination charges); total points paid to the lender to reduce the interest rate of the loan (discount points); amount of lender credits; interest rate applicable at closing or account opening; the debt-to-income ratio; ratio of the total amount of debt secured by the property to the value of the property (combined loan-to-value ratio); for transactions involving manufactured homes, whether the loan or application is or would have been secured by a manufactured home and land or by a manufactured home and not land (manufactured home secured property type); land property interest for loans or applications related to manufactured housing (manufactured home land property interest);

[74] In May 2019, the Bureau issued an advance notice of proposed rulemaking (ANPR) relating to certain data points that the Bureau added or revised in the 2015 HMDA Final Rule as well as Regulation C's coverage of certain business- or commercial-purpose transactions. 84 FR 20049 (May 8, 2019). In June 2021, the Bureau announced that it was no longer pursuing a proposed rulemaking following up on this ANPR in light of its other rulemaking priorities.

[75] Prior to the passage of the Dodd-Frank Act, the Board required reporting of an identifying number for the loan or application but did not require that the identifier be universal. HMDA section 304(b)(6)(G) requires reporting of, "as the Bureau may determine to be appropriate, a universal loan identifier."

[76] Prior to the passage of the Dodd-Frank Act, the Board required financial institutions to report rate spread for higher-priced mortgage loans. 67 FR 7222 (Feb. 15, 2002); 67 FR 43218 (June 27, 2002). HMDA section 304(b)(5)(B) requires reporting of rate spread for all loans.

[77] 12 CFR 1003.4(a)(1)(i), (a)(9)(i), (a)(10)(ii), and (a)(12), (15), (17), (22), (25)-(28), and (33) and (34).

number of individual dwelling units that are income-restricted pursuant to Federal, State, or local affordable housing programs (multifamily affordable units); information related to the automated underwriting system used in evaluating an application and the result generated by the automated underwriting system; whether the loan is a reverse mortgage; whether the loan is an open-end line of credit; and whether the loan is primarily for a business or commercial purpose.[78]

The 2015 HMDA Final Rule also revised certain pre-existing Regulation C data points to provide for greater specificity or additional information in reporting.[79]

TABLE 4: DATA POINTS ADDED OR REVISED BY 2015 HMDA FINAL RULE

	Data Points Added or Revised by 2015 HMDA Final Rule
Data Points Added by 2015 HMDA Final Rule to Implement Dodd-Frank Act Requirements	Universal Loan Identifier (ULI), Property Address, Age (applicant/borrower), Rate Spread, Credit Score, Total Loan Costs or Total Points and Fees, Prepayment Penalty Term, Loan Term, Introductory Rate Period, Non-Amortizing Features, Non-Amortizing Features, Property Value, Application Channel, Mortgage Loan Originator Identifier
Data Points Added by 2015 HMDA Final Rule Pursuant to Discretionary Authority	Reasons for Denial, Origination Charges, Discount Points, Lender Credits, Interest Rate, Debt-to-Income Ratio, Combined Loan-to-Value Ratio, Manufactured Home Secured Property Type, Manufactured Home Land Property Interest, Multifamily Affordable Units, Automated Underwriting System, Reverse Mortgage Flag, Open-End Line of Credit Flag, Business or Commercial Purpose Flag
Data Points Revised by 2015 HMDA Final Rule to Require Additional Information	Loan Purpose, Occupancy Type, Ethnicity, Race, Legal Entity Identifier

As discussed above, the EGRRCPA provides certain institutions partial exemptions from reporting certain data. As amended by the EGRRCPA, HMDA section 304(i)(1) provides that the requirements of HMDA section 304(b)(5) and (6) shall not apply with respect to closed-end mortgage loans of an insured depository institution or insured credit union if it originated fewer than 500 closed-end mortgage loans in each of the two preceding calendar years. Additionally, HMDA section 304(i)(2) provides that the requirements of HMDA section 304(b)(5) and (6) shall not apply with respect to open-end lines of credit of an insured depository institution or

[78] 12 CFR 1003.4(a)(16), (18) through (21), (23) and (24), (29) and (30), (32), and (35)-(38).

[79] These data points include the following: The purpose of the loan or application; occupancy type; ethnicity; race; and legal entity identifier (LEI).

insured credit union if it originated fewer than 500 open-end lines of credit in each of the two preceding calendar years. Notwithstanding the partial exemptions under the EGRRCPA, HMDA section 304(i)(3) provides that an insured depository institution must comply with HMDA section 304(b)(5) and (6)(*i.e.*, does not qualify for a partial exemption) if it has received a rating of "needs to improve record of meeting community credit needs" during each of its two most recent examinations or a rating of "substantial noncompliance in meeting community credit needs" on its most recent examination under section 807(b)(2) of the CRA.[80]

The 2018 HMDA Rule and the 2019 HMDA Final Rule specify that the following data points do not need to be collected and reported if a transaction qualifies for a partial exemption under the EGRRCPA: ULI; property address; rate spread; credit score; reasons for denial[81]; total loan costs or total points and fees; origination charges; discount points; amount of lender credits; interest rate applicable at closing or account opening; prepayment penalty term; debt-to-income ratio; the combined loan-to-value ratio; loan term; introductory rate period; non-amortizing features; property value; manufactured home secured property type; manufactured home land property interest; multifamily affordable units; application channel; mortgage loan originator identifier; information related to the automated underwriting system used in evaluating an application and the result generated by the automated underwriting system; whether the loan is a reverse mortgage; whether the loan is an open-end line of credit; and whether the loan is primarily for a business or commercial purpose.

TABLE 5: EFFECT OF EGRRCPA ON REPORTABLE DATA POINTS

	Effect of EGRRCPA on Reportable Data Points
Data Points Exempted from Reporting by the EGRRCPA Partial Exemptions	Universal Loan Identifier (ULI), Property Address, Rate Spread, Credit Score, Reasons for Denial, Total Loan Costs or Total Points and Fees, Origination Charges, Discount Points, Lender Credits, Interest Rate, Prepayment Penalty Term, Debt-to-Income Ratio, Combined Loan-to-Value Ratio, Loan Term, Introductory Rate Period, Non-Amortizing Features, Property Value, Manufactured Home Secured Property Type, Manufactured Home Land Property Interest, Multifamily Affordable Units, Application Channel, Mortgage Loan Originator Identifier, Automated Underwriting System, Reverse Mortgage Flag, Open-End Line of Credit Flag, Business or Commercial Purpose Flag

[80] 12 U.S.C. 2906(b)(2).

[81] Financial institutions regulated by the OCC are required to report reasons for denial on their HMDA loan/application registers pursuant to 12 CFR 27.3(a)(1)(i) and 128.6. Similarly, pursuant to regulations transferred from the Office of Thrift Supervision, certain financial institutions supervised by the FDIC are required to report reasons for denial on their HMDA loan/application registers. 12 CFR 390.147.

	Effect of EGRRCPA on Reportable Data Points
Data Points Not Affected by the EGRRCPA Partial Exemptions	Application Date, Loan Type, Loan Purpose, Preapproval Request, Construction Method, Occupancy Type, Loan Amount, Action Taken, Action Taken Date, State, County, Census Tract, Ethnicity, Race, Sex, Age (applicant/borrower), Income, Type of Purchaser, HOEPA Status, Lien Status, Number of Units, Legal Entity Identifier

2.4.3 Disclosure and reporting

HMDA and Regulation C require that data collected and reported by financial institutions in a given calendar year be made available to the public the following year in both aggregate and loan-level formats. The HMDA Rule addressed the public disclosure of HMDA data in two primary ways. First, it shifted public disclosure of HMDA data entirely to the agencies. Beginning with HMDA data collected in 2017, financial institutions were no longer required to provide their modified loan/application registers and disclosure statements directly to the public. Instead, they were required only to provide a notice advising members of the public seeking their data that the data may be obtained on the Bureau's web site. Second, the HMDA Rule interpreted HMDA, as amended by the Dodd-Frank Act, to require that the Bureau use a balancing test to determine whether and how HMDA data should be modified prior to its disclosure to the public to protect applicant and borrower privacy while also fulfilling HMDA's public disclosure purposes. Specifically, the Dodd-Frank Act added to HMDA a requirement that the Bureau "modify or require modification of itemized information, for the purpose of protecting the privacy interests of the mortgage applicants or mortgagors, that is or will be available to the public."[82] The Bureau interpreted these changes to require that public HMDA data be modified when the release of the unmodified data creates risks to applicant and borrower privacy interests that are not justified by the benefits of such release to the public in light of HMDA's statutory purposes. In December 2018, the Bureau issued final policy guidance on its web site describing the loan-level HMDA data it intends to make available to the public, including modifications to be applied to the data.[83] As discussed above, the 2015 HMDA Final Rule's balancing test and its application in the 2018 final policy guidance is not covered in this review of the HMDA Rule.[84]

The HMDA Rule retained the pre-2015 HMDA Final Rule requirement that financial institutions submit their HMDA data to the appropriate Federal agency by March 1 following the calendar year for which the data are collected. The HMDA Rule additionally requires that financial

[82] 12 U.S.C. 2803(h)(1)(E).

[83] 84 FR 649 (Jan. 31, 2019).

[84] 86 FR 66220, 66228 (Nov. 22, 2021).

institutions that reported for the preceding calendar year at least 60,000 covered loans and applications combined, excluding purchased covered loans, also submit their data during the following calendar year to the appropriate Federal agency on a quarterly basis.

3. The HMDA Rule and Changes in Data Coverage

3.1 Introduction

To successfully fulfill HMDA's statutory purpose, HMDA loan data must accurately characterize the mortgage market. In addition to providing representative information on transactions, applications, institutions, and applicants in aggregate, the data must be comprehensive enough to enable the Bureau to accurately analyze sub-populations with limited access to mortgage financing or at risk of discrimination. In other words, HMDA data coverage[85] must be sufficiently high overall as well as for populations of interest. Rule changes that affect institutional or transactional reporting requirements need to be carefully analyzed to ensure that HMDA data coverage remains high overall as well as for groups and geographic areas at a high risk of having unmet housing needs or being affected by discrimination.

This chapter explores the impact of the 2015 HMDA Final Rule and subsequent amendments in 2017, 2018, 2019, and 2020—henceforth, collectively referred to as the HMDA Rule—on HMDA data coverage. The chapter starts by discussing the Rule changes considered and detailing the methods employed in the chapter to produce HMDA data coverage estimates. The chapter continues by presenting the HMDA Rule's impacts on HMDA data coverage of originations and HMDA data coverage of originating institutions.[86] Results are shown first for HMDA data coverage of first lien, closed-end mortgages, followed by HMDA data coverage of home equity lines of credit (HELOCs), and, last, for HMDA data coverage of closed-end and HELOC-originating institutions. The chapter concludes by exploring whether there was any change in the volume of first lien, closed-end mortgages, in the number of originating institutions, or in the number of originated HELOCs after most of the HMDA Rule provisions took effect in January of 2018.

[85] Throughout the chapter, HMDA data coverage is defined as the ratio of originations reported to HMDA to the total number of originations made in the market. The chapter uses the terms reportable transactions and institutions required to report HMDA data instead of covered transactions and covered institutions to avoid confusion.

[86] HMDA data coverage of originating institutions is defined as the share of financial institutions originating a transaction-type (a mortgage or an open-ended line of credit) that reported data to HMDA.

Despite an exhaustive combination of datasets, the analysis undertaken in this chapter lacks a valid counterfactual—data on transactions and institutions unaffected by the HMDA Rule that illustrate what would have happened to affected transactions and institutions in the absence of the Rule. As a result, the analysis is unable to assert that the estimated impacts capture the *causal* effects of the HMDA Rule on HMDA data coverage. The analysis largely relies on simple visual depictions of variation over time in HMDA data coverage as well as post-rule minus pre-rule (or after-before) differences in the measures of data coverage. Changes in HMDA data coverage are likely affected by variation in markets over time in addition to potentially being affected by the adoption of different reporting criteria. The after-before comparisons are therefore subject to potential bias from any other policies or behaviors that changed at the time that HMDA Rule amendments took affect and were associated with HMDA data coverage of originations or of originating institutions. Additionally, for the chapter's analysis, while the Bureau exerted substantial effort to identify and use all relevant datasets, some key parameters, such as the number of closed-end and open-end originations made by commercial banks that were not HMDA reporters, were not observable in the data and had to be modeled. All estimates presented in this chapter should therefore be interpreted only as the Bureau's best estimates of the impact of the HMDA Rule.

Key findings from this Chapter include:

- HMDA data coverage of all first lien, closed-end originations ranged from 0.93 to 0.97 between Q1 of 2015 and Q4 of 2019 when measured quarterly. This implies that between 93 percent and 97 percent of all first lien, closed-end originations made between Q1 of 2015 and Q4 of 2019 are observed in the HMDA data.

- Consistent with the 2015 Rule's increase in the closed-end reporting threshold for depository institutions, HMDA data coverage of first lien, closed-end mortgages decreased between Q1 of 2017 and Q1 of 2018.

- Starting in Q1 of 2018 the annual HMDA data coverage of HELOCs was around 0.80. This implies that 80 percent of HELOC originations were reported under HMDA between 2018 and 2020.[87]

- For all financial institutions originating a closed-end mortgage, the share of those institutions reporting HMDA data decreased between 2015 and 2020, with the largest declines observed in 2017 and 2020.

[87] Prior to the 2017 HMDA Rule, reporting of HELOCs was voluntary and likely close to zero.

3.1.1 Rule provisions

The Bureau modified Regulation C's institutional coverage and transactional coverage under HMDA several times between 2015 and 2020. Given the availability of data and the lack of staggered timing in when each of the HMDA Rule changes took effect, the analysis in this chapter is unable to separately distinguish between the effect of each of the different rule changes on HMDA coverage. Nevertheless, this chapter briefly describes the rule changes and points readers to the more detailed discussion in Chapter 2 for additional information.

Prior to 2017, depository financial institutions were required to report HMDA data if they originated at least one reportable home purchase mortgage loan (including refinancings thereof) and if they met other non-origination-based reporting criteria. Starting in 2017, the 2015 HMDA Final Rule increased the threshold, so that depository institutions were only required to report if they originated at least 25 closed-end mortgage loans in each of the two preceding calendar years and met certain other criteria. Until 2018, nondepository institutions were required to report if they met certain non-origination-based reporting criteria and if they originated at least 100 reportable, home purchase mortgage loans (including refinancings thereof) in the preceding year.[88] The 2015 HMDA Final Rule revised institutional coverage of nondepository institutions to require reporting beginning in 2018 if an institution originated at least 25 closed-end loans in each of the two preceding years and satisfied a location test.

Additionally, financial institutions were newly required to report HMDA data beginning in 2018 if they met an open-end line of credit origination threshold. For reporting in 2018 through 2021, an institution was required to report open-end line of credit data if it had originated at least 500 open-end lines of credit in the two preceding calendar years.[89] Effective January 1, 2022, financial institutions are required to report open-end line of credit data if they originate at least 200 open-end lines of credit in each of the two preceding calendar years.

Aside from changing loan origination volume reporting thresholds, the 2015 HMDA Final Rule moved away from the pre-existing "loan purpose" test and adopted a dwelling-secured standard for all loans or lines of credit that are for personal, family, or household purposes. Additionally, Regulation C no longer requires reporting of home improvement loans that are not secured by a dwelling (*i.e.*, home improvement loans that are unsecured or that are secured by some other type of collateral).

[88] Chapter 2 includes a thorough examination of HMDA-related provisions over time.

[89] Chapter 2 includes a thorough examination of HMDA-related provisions over time.

3.2 Data Sources and Methods

3.2.1 Data

This chapter draws on nine data sources to assess the HMDA Rule's effects on coverage. These data sources are:

- Equifax Consumer Credit Trends
- Federal Financial Institutions Examination Council Data
- Home Mortgage Disclosure Act Data
- Master Entity Data
- National Information Center Data
- Credit Union and Corporate Call Report Data
- National Mortgage Database
- Nationwide Multistate Licensing System & Registry Entity Data – B2B and MCR
- Summary of Deposits Data

This chapter describes the HMDA dataset. Appendix C: Data Summary provides additional information about each of the other eight data sources and how the Bureau has combined them to produce the final dataset used for analysis.

Home Mortgage Disclosure Act Data

HMDA, which is implemented by Regulation C, requires financial institutions—both depository and nondepository[90]—to report HMDA data to assist in determining whether financial institutions are serving the housing needs of their local communities; to facilitate public entities' distribution of funds to local communities to attract private investment; and to help identify possible discriminatory lending patterns.[91] Institutions required to report under HMDA must

90 Henceforth, the term "financial institution" includes both depository and nondepository institutions.

91 Chapter 2 of this report discusses in more detail the specific provisions of the 2015 HMDA Final Rule and the subsequent amendments evaluated in this report. A history of HMDA can be found at the Federal Financial Institutions Examination Council, *History of HMDA*, https://www.ffiec.gov/hmda/history2.htm (last modified Sept. 6, 2018).

collect and report information on all reportable transactions, including applications, originations, and purchases each year. While the number of financial institutions and the number of transactions reported under HMDA vary across years, HMDA data are widely viewed by the financial regulatory agencies as the most complete source of publicly available information on the U.S. mortgage market.[92,93]

HMDA data comprise two reported components and one derived component – loan-level information found in the loan/application register (LAR) data, institutional administrative information from the transmittal data, and derived institutional-level data in what is referred to as the HMDA panel. It combines transmittal data with other institution-level information and includes the universe of institutions that reported under HMDA. The transmittal data are submitted with each reporting institution's LAR data, and it includes information such as reporter identification, number of application/loan records submitted, HMDA activity year, and institutional contact information.[94] These components exist in each reporting year. The analysis in this chapter uses both LAR and HMDA panel data.

Prior to 2017, institutions were identified in both the HMDA panel and the LAR data based on a HMDA ID, the concatenation of a 10-digit institution identifier (respondent ID) and a 1-digit code identifying the agency that has ownership of the institution's data. In 2018, all HMDA filers were required to obtain and report a Legal Entity Identifier (LEI) from the Global Legal Entity Identifier Foundation (GLEIF). These identifiers enable the matching of LAR observations to institution-level data from the HMDA panel within the same year. To follow institutions over time, panel observations are linked over time using the LEI, the HMDA ID, and a map between the two institution IDs; to link HMDA data to other sources of financial data, matching relies primarily on institutions' RSSD IDs—a unique identifier assigned by the Federal Reserve—that is available for most institutions in the HMDA panel.

As mentioned above, the 2015 HMDA Rule required financial institutions that exceeded the open-end line of credit volume threshold and met other reporting criteria to begin reporting such transactions starting in January of 2018. The open-end line of credit flag—a new data point added by the Bureau in the 2015 HMDA Final Rule—is thus critical to enable the exploration of HMDA data coverage and changes in HMDA data coverage of open-end lines of credit.

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[92] For example, see Bureau of Consumer Fin. Prot., *Data Point: 2017 mortgage market activity and trends (*May 7, 2018), https://www.consumerfinance.gov/data-research/research-reports/cfpb-data-point-mortgage-market-activity-and-trends/.

[93] The analysis in this chapter retains only information from the 50 U.S. States and the District of Columbia. Data from U.S. territories are not retained.

[94] *See* the FFIEC *HMDA Glossary*, https://www.ffiec.gov/hmda/glossary.htm (last modified June 15, 2022).

HMDA data, while viewed as the most complete source of public, loan-level data on mortgages in the U.S., do not capture the entire mortgage market; non-reportable transactions and institutions not required to report are not observable in HMDA data. Arriving at estimates of the share of mortgage market transactions and institutions that are included in HMDA data requires linking HMDA data to other sources that provide information on parts of the mortgage market potentially not included in HMDA data. The process of combining datasets is described in more detail below.

3.2.2 Methods

HMDA Data Coverage of Transactions

HMDA data coverage of transactions refers to the share of the entire mortgage market for a transaction-type (*e.g.*, HELOCs or first lien, closed-end mortgages) that is reported under HMDA. To determine how the 2015 HMDA Rule and subsequent amendment provisions taking effect in January of 2018 affected HMDA data coverage of transactions, the analysis relies primarily on after-before comparisons of coverage ratios constructed by linking HMDA data to other measures of the relevant loan universe. For first lien, closed-end mortgages,[95] HMDA-based counts of originations are linked to the corresponding quarterly NMDB-based counts, multiplying the NMDB counts by the inverse of their sampling probability. In any quarter, the resulting ratio of HMDA originations to NMDB-implied originations provides an estimate of HMDA data coverage of first lien, closed-end transactions. Plotting the quarterly HMDA data coverage ratios allows for a visual inspection of whether there were any changes in HMDA data coverage when HMDA Rule provisions took effect.

To complement the figure-based data visualizations, the analysis also includes simple Ordinary Least Squares (OLS) regressions of monthly HMDA data coverage on month fixed effects[96] and an indicator for whether the month was in or after January of 2018.[97] The regression-based

[95] Single family, residential, first lien, closed-end mortgages comprise most home loans and HMDA data. In 2020, nearly 90 percent of HMDA originations to natural persons for single family properties were first lien, closed-end transactions.

[96] Month fixed effects refer to distinct indicator variables that take on the value of one if an origination occurred in that calendar month and are equal to zero otherwise. Indicators for eleven of the twelve calendar months can be included, while the twelfth month is referred to as the omitted category. The coefficients on the eleven included month indicators capture the average difference in the outcome between those months and the omitted month. Both originations and HMDA data coverage are highly seasonal. Including the month fixed effects therefore reduces the residual variance in the regression and improves precision.

[97] The 2015 HMDA Final Rule increased the threshold for closed-end mortgage reporting beginning in Q1 of 2017 for depository institutions while decreasing the threshold from 100 to 25 for nondepository institutions beginning in Q1 of 2018. To avoid needing to estimate coefficients on binary indicators for whether originations occurred after Q1 of

estimates combine all the possible after-before monthly differences into one number that captures the weighted-average change in HMDA data coverage of first lien, closed-end mortgage originations in January of 2018. Because NMDB and HMDA data contain information on several loan and property characteristics, the same strategy can be used to separately explore changes in HMDA data coverage of all first lien, closed-end mortgages for different groups. The analysis focuses on loan type (conventional vs. non-conventional), the urban/rural designation of the Census Tract where the property is located, the relative income level of the property's Census Tract, and the racial and ethnic composition of residents of the property's Census Tract.[98] While other characteristics are available in both datasets, there is imputation of variables in the NMDB data (*e.g.*, location-based imputation of borrower race) that makes exploring HMDA data coverage ratios for these characteristics more problematic.

For HELOCs, annual post-2018 HMDA data on the number of open-end lines of credit originated excluding reverse mortgages and secured by single family properties are linked to mortgage market reports from Equifax on the number of HELOCs originated in each year.[99] The ratio of annual HMDA HELOC originations to annual Equifax HELOC originations provides an estimate of HMDA data coverage of HELOCs. Prior to 2018, HMDA data coverage of HELOCs was approximately zero, implying that the simple average of 2018-2020 annual HMDA data HELOC coverage is also the after-before change in HMDA data HELOC coverage.

HMDA Data Coverage of Institutions

Exploring changes in HMDA data coverage of institutions required more extensive linking of HMDA data to other datasets. For each financial institution appearing in a call report—FFIEC Call Report, NCUA Call Report, or NMLS MCR—it was determined whether the institution met the HMDA reporting requirements in each calendar year between 2015-2020. The call report data are linked to HMDA data from that year to identify whether the institution reported under HMDA. As some financial institutions appear in both FFIEC or NCUA call reports and in the NMLS MCR, the call report data are de-duplicated so that institutions appear at most once per year prior to merging to HMDA. The resulting merge to HMDA data links HMDA reporters to a

2017 and after Q1 of 2018 (the former is not separately identified from a 2017-year-indicator) the analysis compares outcomes after Q1 of 2018 to their values before that month. It is possible this will lead to understating the changes that occurred as a result of the HMDA Rule changes in the regression-based differences.

[98] Specifically, whether the Census Tract was majority white non-Hispanic or not.

[99] The report considers HMDA data coverage of HELOCs rather than all open-ended lines of credit because of the availability of market size estimates for HELOCs in the Equifax Consumer Credit Trends data.

call report for nearly 95 percent[100] of institution-years in the 2015-2020 panel.[101] That said, the merge between HMDA data and call report data is imperfect, and this is likely to add error to the HMDA data coverage of institutions estimates.

As mentioned above, FFIEC Call Report data do not contain information on annual mortgage originations or volume, which is needed for the analysis of non-HMDA reporters. To estimate institution-level originations, two separate procedures are relied upon for HELOCs and closed-end mortgages. For HELOCs, the analysis begins by calculating the number of HELOCs originated by banks and thrifts each year by subtracting the observed annual number of HELOC originations (and dollar volume of HELOC originations) from the NCUA call report data and the NMLS MCR data from the Equifax estimates of total market size. The resulting numbers are estimates of the total number and total dollar volume of HELOCs originated each year by banks and thrifts. These bank and thrift HELOC originations are then allocated to institutions based on their share of the total outstanding balance (calculated as the sum across all institutions in the FFIEC Call Report data in that year).

For closed-end mortgages, a different procedure is used because, prior to 2017, all banks and thrifts that originated any closed-end mortgages were required to report under HMDA. As a result, the pre-2017 HMDA data for banks and thrifts should include all closed-end originations from such institutions that met the other HMDA reporting criteria. A key assumption is that for institutions that meet the asset, metropolitan statistical area branch location, and federally insured or regulated criteria, HMDA data prior to 2017 contain all banks that originated closed-end mortgages for the purpose of home improvement, home purchase, or refinancing. The HMDA-observed closed-end mortgage originations are used together with information from the FFIEC Call Report data to estimate a zero-inflated negative binomial model[102] to predict closed-end mortgage originations for all banks. As predictors, the model includes the inverse hyperbolic sine[103] of the total outstanding balance of closed-end loans secured by single family,

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[100] The remaining 5 percent of institution-years are a combination of foreign banks and institutions that failed or merged with another institution during the calendar year but still reported HMDA data.

[101] The institution panel has observations that are unique combinations of institutions and years. An institution that is active throughout the 2015-2020 period would therefore include six distinct observations in the panel. "Institution-year" refers to the unique combination of institution and year that appears as an observation in the panel.

[102] A zero-inflated negative binomial model is intended to model over dispersed (greater variability in the data than expected given the mean and model used) count data with excess zeros. Given the distribution of closed-end mortgage originations—with many institutions not originating any mortgages and some large institutions originating huge numbers—the zero-inflated negative binomial model is likely an appropriate choice for the observed data.

[103] The inverse hyperbolic sine transformation for variable x is defined as $\ln\left(x + \sqrt{x^2 + 1}\right)$. The transformation reduces the influence of large outliers in a manner akin to the log transformation, but the inverse hyperbolic sine allows for the presence of meaningful zeros or even negative values.

residential properties, the inverse hyperbolic sine of the total number of full-time employees, the inverse hyperbolic sine of the number of branches and the number of metropolitan area branches, the inverse hyperbolic sine of total institution assets, and the observed number of closed-end originations by credit unions and nondepository institutions in the year. The zero inflation is based on a logit model[104] with the closed-end balance and an indicator for whether an institution met the non-origination HMDA reporting thresholds as predictors. The estimated model coefficients are used to predict closed-end origination behavior for non-HMDA reporting banks and thrifts in 2017-2020. The model does a reasonable job of approximating the full distribution of pre-2017 originations. The median absolute difference between the actual origination count and the model-predicted origination count is just 28 originations, or 5 percent of the observed origination mean.

Having constructed an institution-year-level panel of financial institutions and linked that panel to HMDA data by year, HMDA data coverage of originating institutions in each year is calculated by taking the ratio of HMDA reporters to all financial institutions that originated either a closed-end mortgage or an open-end line of credit in that year.[105] Plotting these ratios for each year between 2015 and 2020 offers a visual assessment of the HMDA data coverage of originating institutions over time and whether there were any sharp changes as HMDA Rule provisions took effect. In the event that the visualizations show sharp changes, they may suggest that the threshold changes made over time by the HMDA Rule influenced the share of originating institutions that reported under HMDA. This could imply there were changes in the representativeness of the data overall or for certain sub-groups.

In addition to plotting overall HMDA data coverage of originating institutions, the analysis shows HMDA data coverage separately for three types of financial institutions: banks and thrifts (FFIEC Call Report data), credit unions (NCUA Call Report data), and nondepository institutions (NMLS MCR data). To do so, the analysis uses the same institution panel to allocate institutions to each of the three groups based on where they file their call report data. If an institution appears in NMLS MCR and in the FFIEC or NCUA Call Report data, the institution is classified based on their depository call report data (either FFIEC or NCUA).

As a final way to explore HMDA data coverage of originating institutions, the analysis produces tables using call report and HMDA data from the institution panel to show how HMDA data

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104 The logistic (logit) regression model is a statistical model for predicting the likelihood of an event. The likelihood function for a logit model for binary outcome y is specified as: $Pr\{y_i = 1|x_i\} = \frac{exp(x_i \ )}{1+exp(x_i \ )}$, where exp denotes the exponential function and x_i are the predictor variables.

105 This is the most relevant measure of institutional coverage since many (particularly nondepository) institutions do not engage in any mortgage-related activity. Note that this measure is not contingent on institutions satisfying non-origination-related HMDA reporting criteria.

coverage of closed-end mortgage and HELOC originating institutions would differ under hypothetical loan reporting thresholds. The tables rely on call report data to characterize predicted HMDA data coverage. Since originations for all institutions are observed (or predicted via modeling) regardless of whether they report under HMDA, the analysis is not limited to considering origination thresholds larger than the threshold used for current reporting. Similarly, the analysis is able to explore HELOC data coverage despite not observing HELOC originations prior to 2018. Using this information, the number and share of institutions that would have reported under different hypothetical thresholds can be estimated after also imposing all of the relevant non-origination HMDA reporting criteria. Thresholds of 25, 100, 200, and 500 loans for both closed-end mortgage and HELOCs are considered.

The Availability of Credit

The chapter also explores how the availability of first lien, closed-end mortgage credit and the number of financial institutions originating loans changed when provisions of the 2015 and 2017 HMDA Rules took effect. To do so, the NMDB-based estimates of the monthly count of first lien, closed-end mortgage originations are used along with the count of financial institutions originating closed-end mortgages or HELOCs each year in the institution panel. The exploration begins by plotting the count of mortgage originations between 2015-2019 to look for visual breaks in origination behavior at the time that provisions of the 2015 and 2017 HMDA Rules took effect in January of 2017 and January of 2018. These visualizations are complemented by estimating simple after-before regression models, conditioning on month fixed effects in the case of first lien, closed-end mortgage originations and conditioning on institution type for the institutional origination outcome. For both outcomes, the coefficient on an indicator for whether the credit availability outcome was observed in or after January 2018 captures the change in the outcome at the time most of the 2015 and 2017 HMDA Rule provisions took effect in January of 2018 (after adjusting for seasonality in the case of mortgage originations).

As mentioned in Chapter 1 and at the beginning of Chapter 3 of this report, without a valid counterfactual, interpreting any of the empirical estimates in this chapter as being the *causal* impact of the HMDA Rule on observed outcomes is difficult. This is especially true for the specifications exploring changes in the availability of credit; both outcomes — the number of financial institutions originating home loans and the number of originations—are highly dependent on macro and microeconomic characteristics not included in the model. Any of these characteristics that change around January of 2018 will statistically bias the estimates of the associations between the availability of credit and the HMDA Rule. Nevertheless, the results are presented and discussed, but readers are urged to use caution when interpreting the findings.

3.3 Results

3.3.1 HMDA Data Coverage of First Lien, Closed-End Mortgages

Figure 1 begins by plotting quarterly estimates of first lien, closed-end mortgages from HMDA and NMDB separately between Q1 of 2015 and Q4 of 2019. Both lines closely track one another throughout the period, with the NMDB line always slightly above the HMDA line, suggesting incomplete HMDA data coverage. There is clear seasonality in both lines, with Q1 originations always the lowest in both datasets. Quarterly originations are their lowest in Q1 of 2019 (between 1.2 and 1.4 million) before rapidly rising to their highest level in the period over the next two quarters (approximately 2.2 million quarterly originations). There appears to be a decrease in HMDA data coverage, as evidenced by an increased distance between the two lines, beginning in Q1 of 2018.

Figure 1: Quarterly Count of Originations in HMDA and NMDB

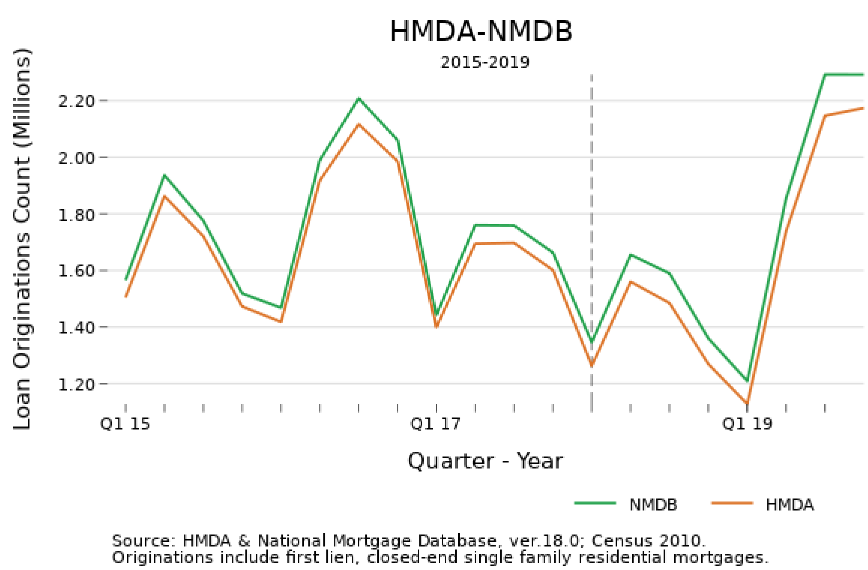


Figure 2 continues by plotting the quarterly HMDA data coverage ratio for first lien, closed-end, single family, residential mortgages. As a reminder, the HMDA data coverage ratio captures the share of the total number of these originations that are reported to HMDA. HMDA data coverage of the first lien, closed-end mortgages is high throughout the study period, ranging from a low of 0.93 (in Q1 of 2019) to a high of 0.97 (in Q4 of 2015). Figure 2 also confirms the drop in HMDA data coverage observed after 2018 in Figure 1. Relative to earlier quarters, HMDA data coverage starting in Q1 of 2018 is roughly two percentage points lower. The regression-based difference that averages over all before and after quarters confirms the visual evidence: the point estimate on the post-January 2018 indicator suggests that HMDA data coverage decreased by 2.67 percentage points after most of the 2015 and 2017 HMDA Rule provisions took effect in January of 2018. Relative to the pre-Rule HMDA data coverage mean of 96.5 percent, this corresponds to a small 2.76 percent decrease in HMDA data coverage of closed-end, first-lien residential mortgages.

While calculating monthly HMDA data coverage ratios using the HMDA-NMDB merge is feasible, there is some noise and delay in the reporting of origination date, particularly in the NMDB data.[106] As a result, monthly HMDA data coverage ratios are more volatile and occasionally display HMDA data coverage ratios above 1, albeit typically adjacent to months with lower-than-normal HMDA data coverage. The analysis therefore focuses on the quarterly ratios that smooth out some of the month-to-month variation in the two datasets.

Figure 1 and Figure 2 clearly illustrate the unique breadth of HMDA data for measuring the mortgage market. While HMDA data do not contain the universe of first lien, closed-end mortgages, they come quite close.

Figure 2: HMDA - NMDB Coverage Ratio of Originations

[106] According the NMDB technical documentation, the NMDB data have a 21-month delay in release. *See* Nat'l Mortg. Database*, Technical Report 1, National Mortgage Database Technical Documentation* at.21, (Mar. 10, 2020) https://www.fhfa.gov/PolicyProgramsResearch/Programs/Documents/NMDB-Technical-Documentation-20200310.pdf.

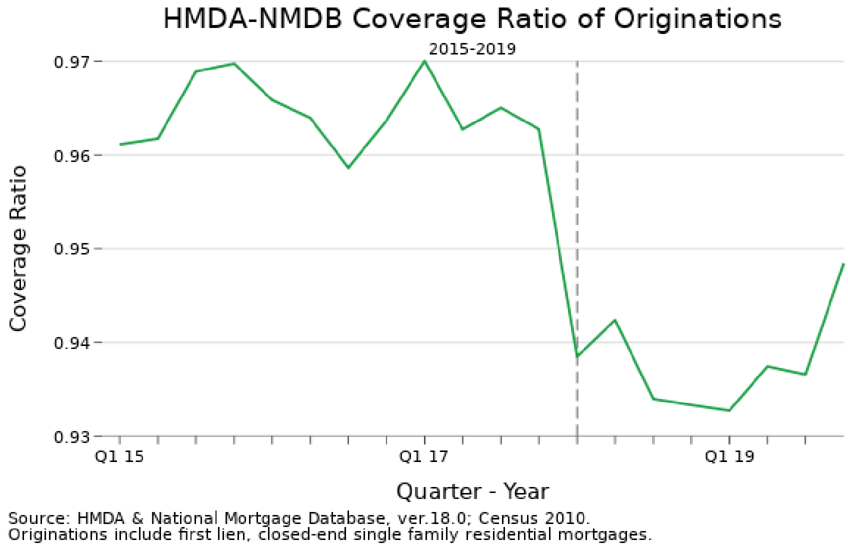


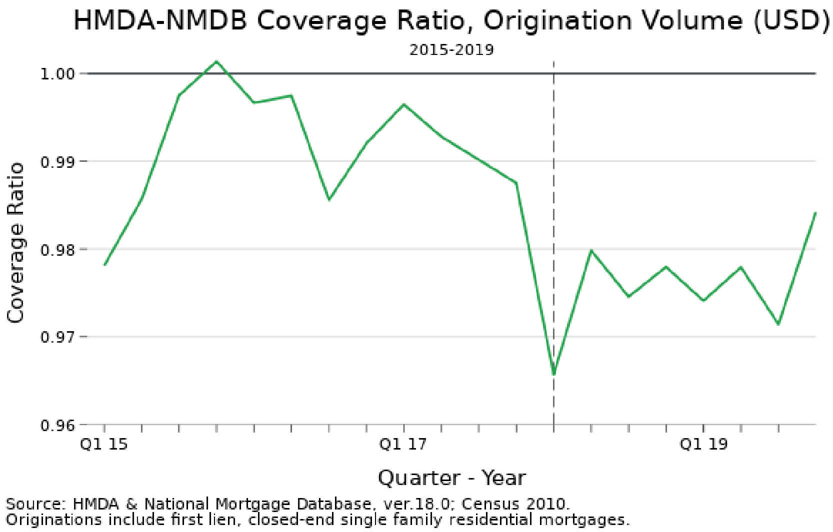
Figure 3 turns to calculating the HMDA data coverage ratio for the dollar volume of first lien, closed-end residential mortgages, expressed in 2020 United States dollars (USD). [107] HMDA data coverage for the dollar volume of originations is similar in magnitude and follows the same pattern over time as HMDA data coverage of origination counts. Volume coverage is always above 0.96, with a decrease beginning in Q1 of 2018. Prior to Q1 of 2018, the HMDA data coverage ratio was above 0.98; after the HMDA Rule change, the HMDA data coverage ratio decreased by 1.6 percentage points.

Figure 3 also displays a HMDA data coverage ratio that exceeds 1, in Q4 of 2015. Origination volumes are more likely than origination counts to be affected by NMDB sampling variation as there are a small number of lending institutions and loans in HMDA data that report extremely large volumes. These could reflect reporting errors on the part of financial institutions, but even correcting for obvious reporting errors, the distribution of loan volume has extreme outliers in the HMDA data. NMDB sampling implies that there is only a five percent chance that the largest loans will be sampled and included in the data.[108]

Figure 3: HMDA - NMDB Coverage Ratio of Origination Volume (USD)

[107] Nominal values are adjusted for inflation using CPI-U from the U.S. Bureau of Labor Statistics. The data used is from the series titled, "All items in U.S. city average, all urban consumers, not seasonally adjusted" with series ID: CUUR0000SA0. *See* https://www.bls.gov/cpi/data.htm.

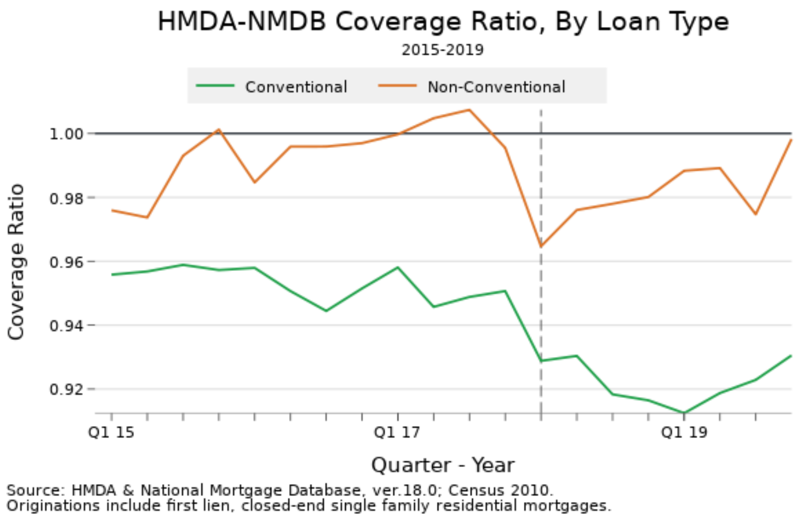
[108] Some of the extreme outliers are trimmed from the data by dropping loan originations with a volume above the 99th percentile in the NMDB data. Many of these observations were from one lender that originated extremely large loans in 2014 and 2015.



Figures 4-7 turn to estimating the HMDA-NMDB-implied HMDA data coverage ratio for different groups that are defined based on loan and property characteristics.[109] Figure 4 begins by exploring the HMDA data coverage of conventional and non-conventional loans. Conventional loans are those not insured or guaranteed by the Federal Housing Agency (FHA), the U.S. Department of Veterans Affairs (VA), the Rural Housing Service (RHS), or the Farm Services Agency (FSA). HMDA data coverage of non-conventional loans, which make up a small share of the total mortgage market, is higher than HMDA data coverage for conventional loans throughout the 2015-2019 period; HMDA data coverage of conventional loans was ranged from 0.94 to 0.96 during 2015 to Q2 of 2017, while HMDA data coverage for non-conventional loans ranged from 0.98 to 1.0. Non-conventional loans are more commonly originated by large institutions and in urban areas, which suggests the institutions are more likely to be required HMDA reporters. There is a decline in HMDA data coverage for both loan types beginning in Q1 of 2018, with the OLS regression suggesting there were decreases in HMDA data coverage of 1.3 percentage points (for non-conventional loans) and 3.1 percentage points (for conventional loans).

Figure 4: HMDA - NMDB Coverage Ratio of Originations, by Loan Type

[109] The tract information reported to HMDA is based on the property address whereas the tract information in NMDB is sourced from the mailing address in the borrower's credit record. This difference in the source of address information could generate non-random noise in the HMDA-NMDB data coverage measures that rely on the census tract of the property to group observations.



Figures 5-7 present HMDA data coverage for distinct groups defined based on the Census Tract of the property. It is important to note that while HMDA property location is based on the physical address of the property securing the loan, NMDB location is based on the mailing address of the borrower. As a result, there will be some originations where the NMDB tract location does not correctly identify the location of the property. This will be most common for investment properties and in rapidly changing Census Tracts where borrowers' mailing addresses may not coincide with the Census Tracts where the purchased properties are located.

Figure 5 explores HMDA data coverage of first lien, closed-end mortgages by the median relative family income of the Census Tract where the property is located. To allocate Census Tracts to income groups, 2010 Census data are used to categorize tracts as low, moderate, middle, or upper income-level, depending on the relationship between Census Tract median family income and the median family income in the surrounding metropolitan statistical area (MSA), micropolitan division (MD), or county. More specifically, low-income Census Tracts are defined as those where the ratio of Census Tract median family income to MSA/MD/County median family income is under 0.5. This implies that the median family income of the Census Tract is less than 50 percent of the MSA/MD/County median family income. Moderate income Census Tracts as those where the ratio of Census Tract median family income to the median family income in the surrounding MSA/MD/County is greater than or equal to 0.5 and less than 0.8; middle income Census Tracts as those where the median family income ratio is greater than or equal to 0.8 and less than 1.2; and upper income Census Tracts as those where the median family income ratio is greater than or equal to 1.2.

HMDA data coverage is positively related to Census Tract relative income, with the highest HMDA data coverage occurring in upper income tracts and the lowest HMDA data coverage in low-income tracts. Consistent with previous figures, there is an observable decline in HMDA data coverage in Q1 of 2018 for all four Census Tract relative income groups: point estimates suggest decreases of 2.0, 1.9, 3.2, and 2.1 percentage points for low, moderate, middle, and upper income-level tracts, respectively.

Figure 5: HMDA - NMDB Coverage Ratio of Originations, by Tract Income Level

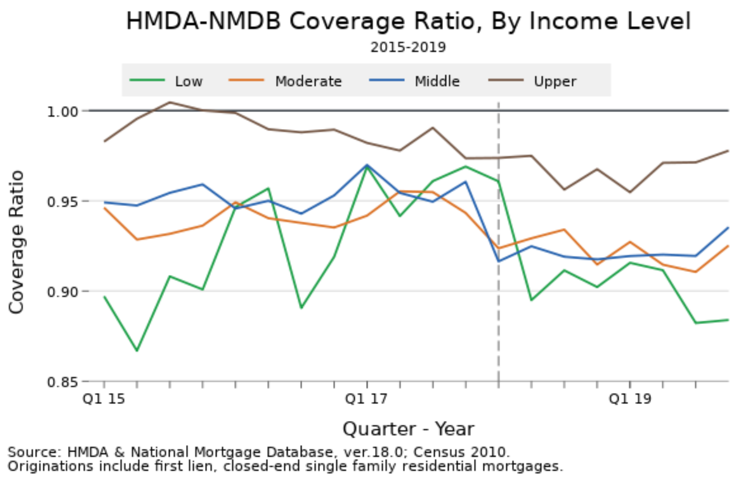


Figure 6 plots HMDA data coverage by whether the property was in an urban, rural, or "mixed" Census Tract. The Census Bureau's urban-rural classification is a delineation of individual urban and rural areas in the U.S. at the block-level, rather than the tract level. An urban area meets minimum population density requirements, encompassing at least 2,500 people of which at least 1,500 reside outside institutional group quarters. Thus, an urban tract comprises urban blocks. A rural area is defined as any population, housing, or territory not in an urban area. Rural tracts contain all rural blocks. If a tract contains blocks that are both urban and rural, it is considered "mixed."[110] HMDA data coverage throughout the period is highest in urban census tracts and lowest in rural tracts. Given the requirement that institutions required to report under HMDA have a home or branch office in an MSA, this pattern is not surprising. The decline in HMDA data coverage also appears greater in rural census tracts, potentially because institutions serving rural census tracts are more likely to originate between 1-24 mortgage loans and therefore not be institutions required to report under HMDA once the 2015 HMDA Final Rule and the 25-loan closed-end threshold took effect.

[110] *See* Fed. Fin. Insts. Examination Council, *FFIEC Census Flat Files Documentation*, https://www.ffiec.gov/censusapp.htm (last modified Aug. 23, 2022).

Figure 6: HMDA - NMDB Coverage Ratio of Originations, by Rural and Urban Tract

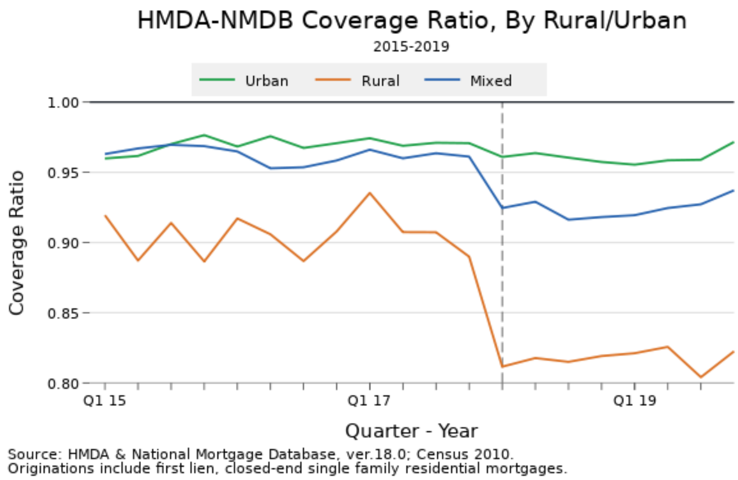
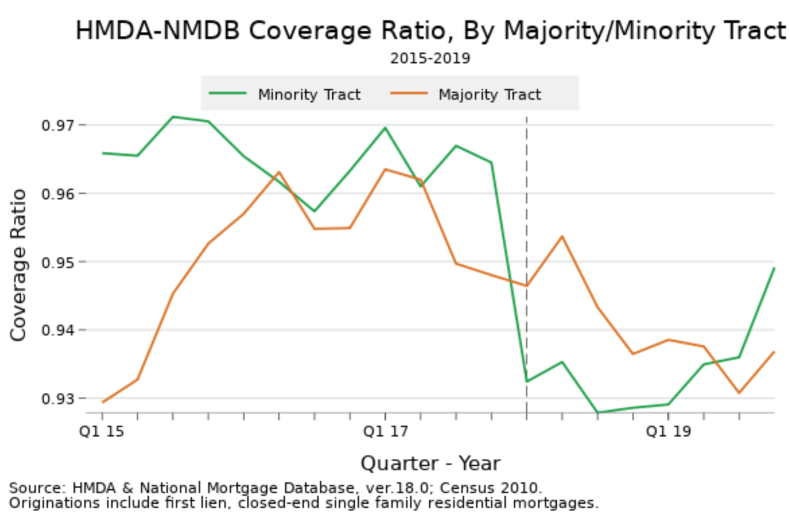


Figure 7 plots HMDA-NMDB-based HMDA data coverage ratios separately for properties located in Census Tracts where most residents are not White non-Hispanic ("majority minority") and for Census Tracts where most residents are White non-Hispanic. HMDA data coverage in both groups appears similar just before and after most HMDA Rule provisions took effect in January of 2018, and ratios are typically between 0.93 and 0.97. The declines in HMDA data coverage beginning in Q1 of 2018 are 3.1 and 1.1 percentage points for majority White non-Hispanic and majority minority Census Tracts, respectively.

Figure 7: HMDA - NMDB Coverage Ratio of Originations, by Majority and Minority Tract

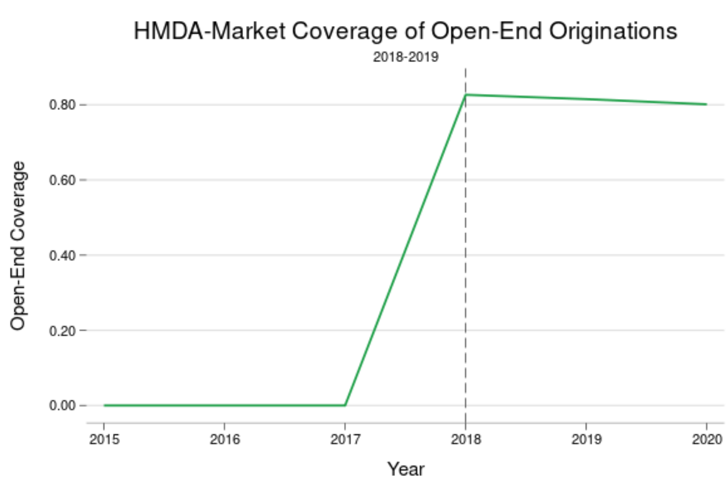


3.3.2 HMDA Data Coverage of HELOCs

HMDA data coverage of HELOCs is estimated based on the annual ratio of the number of open-end lines of credit observed in HMDA data to the number observed in the Equifax Consumer Credit Trends data. Figure 8 plots this HMDA data coverage ratio over time.

Prior to 2018, open-end lines of credit were not required to be reported under HMDA, implying a HMDA data coverage ratio of approximately zero. A HMDA data coverage ratio of 1.0 suggests that all open-end lines of credit observed in Equifax's total market estimate of HELOC originations are also observed in HMDA data. Beginning in 2018, when the HMDA Rule provision requiring reporting of open-end lines of credit took effect, the HMDA data coverage ratio increases to just above 0.8, where it stays roughly constant between 2018-2020. HMDA data coverage for HELOCs is markedly lower than for first lien, closed-end residential mortgages. The pattern in HMDA data HELOC coverage ratios is consistent with the constant reporting threshold for open-end lines of credit over the 2018-2020 period—institutions were required to report if they originated at least 500 open-end lines of credit in each of the preceding two calendar years. This contrasts with the closed-end reporting threshold which changed in 2017 and again in 2020.

Figure 8: HMDA Coverage of Open-End Line of Credit Originations



3.3.3 HMDA Data Coverage of Institutions

Closed-end Mortgages

To assess changes in HMDA data coverage of originating institutions the analysis relies on the de-duplicated panel of linked call report and HMDA data described above. For the assessment of closed-end mortgage originating institutions, the panel is limited to institutions and years where at least one closed-end, residential mortgage origination was observed. HMDA data coverage ratios are then calculated based on the share of these institutions that were observed reporting HMDA data in that year. There is no requirement that these originating institutions meet the non-origination-based HMDA reporting criteria. A HMDA data coverage ratio of 1.0 suggests that every institution that originated at least one closed-end mortgage in a year also reported closed-end originations to HMDA that year. A HMDA data coverage ratio of zero suggests that none of the institutions that originated at least one closed-end mortgage in a year also reported their closed-end originations to HMDA that year.

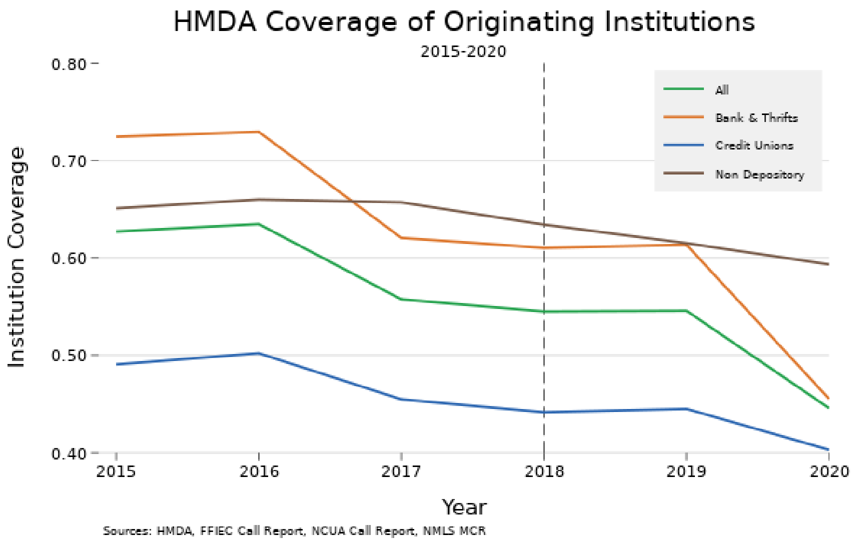
Figure 9 presents the overall share, along with the HMDA data coverage of institutions separately for banks and thrifts (FFIEC Call Report filers), credit unions (NCUA Call Report filers), and nondepository institutions (NMLS MCR filers). Overall HMDA data coverage of closed-end, residential mortgage originating institutions is 0.63 in 2015 and similar in 2016. In 2017, with the introduction of the 25-origination two-year lookback for depository institutions, HMDA data coverage of all institutions originating closed-end mortgage loans drops to 0.56 where it remains relatively stable through 2019. HMDA data coverage of closed-end originating institutions declines again in 2020 as the closed-end reporting threshold increased from 25 to 100, implying that fewer institutions were required to report under HMDA. In 2020, the HMDA data coverage of closed-end originating institutions is 0.45, nearly 20 percentage points lower than it was in 2015.[111]

The patterns for banks and credit unions separately closely mirror the overall HMDA data coverage rates, albeit beginning from different starting levels. HMDA data coverage of originating banks was 0.72 in 2015, dropped to 0.62 in 2017 when the 25-loan threshold took effect, and then fell to 0.45 in 2020 when the 100-loan threshold took effect. HMDA credit union data coverage began at 0.49 in 2015, fell to 0.45 in 2017, and fell again to 0.40 in 2020. HMDA data coverage of nondepository institution originators, in contrast, is gently declining throughout most of the period, with no notable change in HMDA data coverage with the

[111] These HMDA data coverage ratios of originating institutions differ somewhat from previous estimates. Differences are likely driven by variation in the success of manual matches between HMDA reporters and call report data as well as the increasing availability of RSSD identifiers for financial institutions.

decrease in the nondepository loan-origination volume threshold in 2018 from 100 to 25 or with the subsequent increase in the reporting threshold from 25 to 100 in 2020.

Figure 9: HMDA Data Coverage of Originating Institutions, by Institution Type



To understand how HMDA data coverage of institutions would have differed under different hypothetical closed-end reporting thresholds, the chapter next uses the linked call report-HMDA institution panel to calculate the share of financial institutions that would be required to report given their non-origination institutional characteristics, their origination behavior, and the hypothetical thresholds using 2020 Call Report data.

In adopting the original threshold of 25 closed-end mortgage loans in the 2015 HMDA Final Rule, the Bureau stated that it believed that the HMDA data institutional coverage criteria should balance the burden on financial institutions of reporting HMDA data against the value of the data reported. To that end, a threshold should be set that did not impair HMDA's ability to achieve its purposes but also that does not impose a burden on institutions if their data are of limited value. However, after issuing the 2015 HMDA Final Rule and the 2017 HMDA Final Rule, the Bureau heard concerns that lower-volume institutions continue to experience significant burden with the threshold set at 25 closed-end mortgage loans. The Bureau then increased the threshold for closed-end data to 100 in the 2020 HMDA Final Rule. A subsequent court decision in 2022 vacated the 2020 HMDA Final Rule's increase to the closed-end threshold. Accordingly, the closed-end threshold is 25, originally established in the 2015 HMDA Final Rule.[112]

There are several important assumptions to note before discussing Table 1 and the results. The exercise assumes that all institutions required to report HMDA data do report HMDA data, that no institutions not required to report HMDA data opt to report HMDA data, and that origination behavior is not affected by changes in the origination thresholds. None of these assumptions are likely to be perfectly accurate, but they may reasonably approximate the patterns observed in the data.

Table 1 presents the results for hypothetical closed-end mortgage thresholds of 25, 100, 200, and 500. The table shows hypothetical HMDA data coverage statistics for closed-end mortgage originating institutions. Based on call report data, 8,466 financial institutions are estimated to have originated a closed-end mortgage in 2020. Of these, 4,390 were banks and thrifts, 3,354 were credit unions, and 722 were nondepository institutions.

At a loan origination threshold of at least 25 closed-end mortgages in each of the preceding two years, the number of HMDA-reporting institutions would decline to 5,402 overall, 3,210 for banks and thrifts, 1,713 for credit unions, and 479 for nondepository institutions. The drop in HMDA data coverage of depository institutions suggests there are many NMLS MCR reporters that originate between one and 24 closed-end mortgage loans. Overall HMDA data coverage of institutions is projected to be 63.8 percent for originating institutions at the 25-loan closed-end threshold.

Table 1: HMDA Data Coverage of Closed-End Loans and Originating Institutions over Varying Reporting Thresholds

Closed-End Loans	Universe	Reporting Threshold			
		25	100	200	500
Number of Institutions					
All	8,466	5,402	3,695	2,569	1,308
Market Coverage		63.8%	43.6%	30.3%	15.5%
Type					
Banks & Thrifts	4,390	3,210	2,261	1,475	627
Credit Unions	3,354	1,713	1,011	693	334
Non-DIs	722	479	423	401	347

[112] *Nat'l Cmty. Reinvestment Coal., et al., v. Consumer Fin. Prot. Bureau*, No. 20-cv-2074, 2022 WL 4447293 (D.D.C. Sept. 23, 2022).

With the origination threshold of 100 closed-end mortgage originations in each of the two preceding years, the threshold in effect for 2020 data, call report data predict there should be 3,695 closed-end reporters overall (43.6 percent of originating institutions), 2,261 banks and thrifts, 1,011 credit unions, and 423 nondepository institutions. These figures are slightly lower than the observed number of reporting institutions from the Bureau's 2020 Mortgage Market Activity Trends datapoint,[113] where there were 4,466 closed-end reporting institutions, 2,024 banks and thrifts, 1,403 credit union reporters, and 1,039 nondepository reporters. The decreased number of banks and thrifts and the increased number of nondepository institutions could be partly explained by the existence of bank and thrift subsidiaries observed in the FFIEC Call Report data, which are classified as banks in this chapter but as "Affiliated mortgage companies" in CFPB datapoints. Slightly lower institutional reporting could also be explained by institutions reporting to HMDA despite not being required to do so.

HMDA data coverage of institutions and the number of reporting institutions of each type continue to decline with increases in the hypothetical reporting threshold to 200 closed-end mortgages or 500 closed-end mortgages. At the 200 closed-end mortgage threshold, 30.3 percent of originating institutions are projected to be HMDA reporters; at the 500 closed-end mortgage threshold this falls to just 15.5 percent. Importantly, the HMDA reporting institutions—even at the 500 closed-end mortgage threshold—are still responsible for originating more than 90 percent of all closed-end mortgage transactions. This is consistent with the idea that mortgage lending is concentrated in larger institutions that originate a high number of mortgages each year.

HELOCs

Table 2 presents the analogous exercise for HELOC-originating financial institutions. As noted in the 2015 HMDA Final Rule, the Bureau believed that an open-end threshold of 100 or more open-end lines of credit appropriately balanced the benefits and burdens of requiring institutions to report based on their open-end mortgage lending.[114] Several developments since the Bureau issued the 2015 HMDA Final Rule affected the Bureau's analyses of the costs and

[113] Bureau of Consumer Fin. Prot., *Data Point: 2020 Mortgage Market Activity and Trends* (Aug. 2021), https://files.consumerfinance.gov/f/documents/cfpb_2020-mortgage-market-activity-trends_report_2021-08.pdf.

[114] 80 FR 66128, 66162, 66281 (Oct. 28, 2015).

benefits associated with the open-end threshold.[115] The Bureau determined in the 2020 HMDA Final Rule that the permanent threshold of 200 open-end lines of credit provides sufficient information on open-end lending to serve HMDA's purposes while appropriately reducing one-time and ongoing costs for smaller institutions that would be incurred if the threshold of 100 open-end lines of credit were to take effect.

Patterns of HMDA data coverage of institutions are similar to those seen in Table 1, though the levels of HMDA data coverage of institutions are substantially lower. The analysis predicts there should be 366 open-end line of credit reporting financial institutions at the 500-loan threshold in place for 2018-2021 HMDA reporting. These 366 institutions represent just 8.4 percent of all open-end originating institutions. Were the threshold for open-end reporting to be decreased to 100 originations, 850 financial institutions (19.4 percent) would be required to report their open-end data under HMDA. At the current 200-loan threshold in place for 2022 reporting, 594 institutions (13.6 percent) would be required to report.

Table 2: HMDA Data Coverage of Open-End Lines of Credit and Originating Institutions over Varying Reporting Thresholds

Open End Lines of Credit	Universe	Reporting Threshold			
		25	100	200	500
Number of Institutions					
All	4,372	1,436	850	594	366
Market Coverage		32.8%	19.4%	13.6%	8.4%
Type					
Banks & Thrifts	1,812	226	197	185	146
Credit Unions	2,438	1,182	642	402	217
Non-DIs	122	28	11	7	3

[115] 84 FR 20972, 20981 (May 13, 2019). As explained in the 2020 HMDA Final Rule, the estimates the Bureau used in the 2015 HMDA Final Rule may understate the burden that open-end reporting would impose on smaller institutions if they were required to begin reporting on January 1, 2022. For example, in developing the one-time cost estimates for open-end lines of credit in the 2015 HMDA Final Rule, the Bureau had envisioned that there would be cost sharing between the line of business that conducts open-end lending and the line of business that conducts closed-end lending at the corporate level, as the implementation of open-end reporting that became mandatory under the 2015 HMDA Final Rule would coincide with the implementation of the changes to closed-end reporting under the 2015 HMDA Final Rule. However, this type of cost sharing is less likely now since financial institutions have already implemented almost all of the closed-end reporting changes required under the 2015 HMDA Final Rule (2020 HMDA Final Rule at 28378).

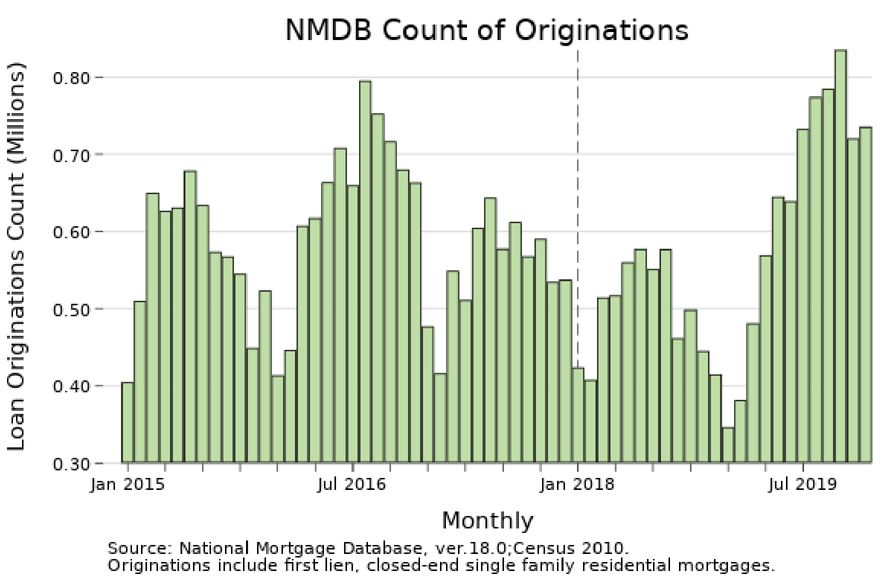
3.3.4 Changes in the availability of credit

To assess whether there were any changes in mortgage availability or in the number of originating institutions over time, the analysis uses NMDB data to plot the implied number of monthly first lien, closed-end mortgage originations between 2015-2019. Figure 10 displays these monthly origination counts along with a vertical line in January of 2018.

As was observable in the earlier NMDB and HMDA-based closed-end mortgage data, originations are highly seasonal with the highest origination volume typically occurring in the summer and the lowest origination volumes occurring in January or February. Origination counts range between 350,000-800,000 during the 2015-2019 period.

Based on visual inspection, there is no obvious change in the count of closed-end mortgage originations in January of 2017, when the closed-end reporting threshold for depository institutions changed, or in January of 2018 when other 2015 HMDA Rule provisions took effect. While origination volumes are slightly lower in 2018 than in earlier years, they are higher in 2019. The regression results confirm the lack of a visual change in the number of first lien, closed-end mortgage originations. The OLS regression of the monthly count of loans originated on month fixed effects and an indicator for whether the month is in or after January of 2018 suggests that post-January 2018 months see more than 490,000 additional originations relative to months prior to January of 2018.

Figure 10: NMDB Count of Originations (Millions)a



Next, the chapter turns to the OLS regressions that assess whether the likelihood that financial institutions originated closed-end mortgages or HELOCs changed in January of 2018. For both closed-end mortgages and HELOCs, the regressions control for the institution type (with nondepository institutions being the omitted institution category). There is no evidence of a decrease in institutions opting to originate closed-end mortgages when the HMDA Rule took effect. In fact, the point estimate on the post-January 2018 indicator is positive, suggesting that financial institutions were 0.3 percentage points more likely to originate a closed-end mortgage after January of 2018. The corresponding HELOC regression yields a point estimate on the post-January 2018 indicator of -0.03, indicating financial institutions were 3 percentage points less likely to originate a HELOC following the effective date of the HMDA Rule. However, despite the observed decrease in the likelihood of institutions originating HELOCs in 2018 and later, there is no parallel reduction in the number of HELOC originations. Relative to the number of annual HELOC originations between 2015-2017, there is no difference in annual HELOC originations between 2018-2020.

4. Data Points

The 2015 HMDA Final Rule (2015 rule) made substantial additions and modifications to the data that financial institutions are required to report about each loan or application. Some of these changes were explicitly mandated by the Dodd-Frank Act (DFA), while others were required by CFPB (the Bureau) pursuant to its discretionary authority. In the 2015 rule, the Bureau stated how the changes would help further the HMDA purposes. Since 2018, financial institutions (FIs) have reported the new data under the 2015 rule, enabling a retrospective review of the new and revised data points.

This chapter begins by presenting changes to the data points implemented by the 2015 rule. It then discusses, one-by-one, and in groups, how these new and revised data points were generally reported, certain patterns that they reveal, and how they help further the HMDA purposes as initially envisioned by the 2015 rule.

Since 2019, the Bureau has published a number of reports, called Data Point articles, using the new HMDA data.[116] In 2019, the Bureau published a Data Point article introducing the new and revised data points in the 2018 HMDA data and providing some initial observations about the U.S. mortgage market.[117] In 2020, the Bureau published an update of this 2019 Data Point article based on the 2019 HMDA data.[118] These two reports provide a thorough overview of the new HMDA data collected and reported under the 2015 rule and offer an initial set of findings from the new and revised data. The analyses in this chapter rely heavily on the Bureau's aforementioned updated article on new and revised data points using 2019 HMDA data (the 2019 Data Point article).[119]

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[116] For more information, see Bureau of Consumer Fin Prot., *Research and reports*, https://www.consumerfinance.gov/data-research/research-reports/ (last visited Oct. 13, 2022).

[117] Bureau of Consumer Fin. Prot., *Introducing New and Revised Data Points in HMDA – Initial Observations Based on New and Revised Data Points in 2018 HMDA Data* (Aug. 30, 2019), https://www.consumerfinance.gov/data-research/research-reports/introducing-new-revised-data-points-hmda/.

[118] Bureau of Consumer Fin. Prot., *An updated review of the new and revised data points in HMDA – Further observations using the 2019 HMDA data* (Aug. 27, 2020), https://www.consumerfinance.gov/data-research/research-reports/revised-data-points-hmda/ (2019 Data Point article).

[119] The overall patterns of data points observed in 2019 are consistent with those from 2018, therefore we only present analyses using the 2019 data.

4.1 New and Revised Data Points

For each application, originated loan, or purchased loan submitted as part of a financial institution's loan/application register, prior to the 2015 rule, Regulation C required reporting of 35 pieces of information, and allowed for optional reporting of three denial reasons.[120] Throughout this review, the Bureau uses the term "data point" to refer to each piece of information to be reported and "data field" to refer to the actual entries on the loan/application register necessary to report the required data points.

In the 2015 rule, the Bureau added the following 13 data points to Regulation C to implement specific provisions added by the Dodd-Frank Act in HMDA section 304(b)(4), (5)(A) through (C), and (6)(A) through (I): Universal Loan Identifier (ULI);[121] property address; age; rate spread for all loans;[122] credit score; total loan costs or total points and fees; prepayment penalty term; loan term; introductory rate period; non-amortizing features; property value; application channel; and mortgage loan originator identifier.

Additionally, the 2015 rule required reporting of these additional 15 data points pursuant to the Bureau's discretionary authority under HMDA section 304(b)(5) and (6): Reasons for denial of a loan application, which were optionally reported under the Board's rule but became mandatory; the total origination charges associated with the loan (origination charges); the total points paid to the lender to reduce the interest rate of the loan (discount points); the amount of lender credits; the interest rate applicable at closing or account opening; the debt-to-income ratio; the ratio of the total amount of debt secured by the property to the value of the property (combined loan-to-value ratio); for transactions involving manufactured homes, whether the loan or application is or would have been secured by a manufactured home and land or by a manufactured home and not land (manufactured home secured property type); the land property interest for loans or applications related to manufactured housing (manufactured home land property interest); the number of individual dwellings units that are income-restricted pursuant to Federal, State, or local affordable housing programs (multifamily affordable units); information related to the automated underwriting system used in evaluating

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[120] The 35 pieces of information are respondent ID, agency code, application number, application date, loan type, property type, purpose, occupancy, loan amount, preapprovals, action, action date, MSA, State, county, census tract, applicant ethnicity, applicant sex, five applicant race data fields, co-applicant ethnicity, co-applicant sex, five co-applicant race data fields, income, purchaser, rate spread, HOEPA status, and lien status.

[121] Prior to the passage of the Dodd-Frank Act, the Board required reporting of an identifying number for the loan or application but did not require that the identifier be universal. HMDA section 304(b)(6)(G) requires reporting of, "as the Bureau may determine to be appropriate, a universal loan identifier."

[122] Prior to the passage of the Dodd-Frank Act, the Board required financial institutions to report rate spread for higher-priced mortgage loans. 67 FR 7222 (Feb. 15, 2002); 67 FR 43218 (June 27, 2002). HMDA section 304(b)(5)(B) requires reporting of rate spread for all loans.

an application and the result generated by the automated underwriting system; whether the loan is a reverse mortgage; whether the loan is an open-end line of credit; and whether the loan is primarily for a business or commercial purpose.

In addition to adding 28 new data points, the 2015 rule also revised certain pre-existing Regulation C data points to provide for greater specificity or additional information in reporting[123] and re-adopted certain data points that are substantially similar or identical to pre-existing data points added to Regulation C by the Board.[124] These revisions addressed changes required by the Dodd-Frank Act, aligned current HMDA fields with industry data standards, and closed information gaps. Aligning the requirements of Regulation C to existing industry standards for collecting and transmitting data on mortgage loans and applications reduced the burden associated with Regulation C compliance and data submission for some institutions, which is discussed further in detail in Chapter 6.

4.2 General Patterns of the New and Revised Data Points

4.2.1 Demographic: Race, Ethnicity, Age

Prior to the 2015 rule, reporters were required to report race, ethnicity and sex of an applicant and a co-applicant. The 2015 rule made a number of changes to the reporting of race and ethnicity data points and added age of an applicant and a co-applicant as a new data point. Under the 2015 rule, race, ethnicity, sex and age were no longer termed "government monitoring information", but instead were named "demographic information".

The 2015 rule requirements include expanded reporting of race and ethnicity to allow for more detailed categories. Prior to the 2015 rule, ethnicity was reported under one field for applicants and co-applicants respectively, with a standard enumeration of being Hispanic, not Hispanic or not applicable. Under the 2015 rule, the enumeration of ethnicity expanded to allow detailed

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[123] These data points include the following: purpose of the loan or application; occupancy type; ethnicity; race; and legal entity identifier (LEI).

[124] These data points include the following: Application date; loan type; whether the application or covered loan involved a request for a preapproval of a home purchase loan under a preapproval program; construction method for the dwelling related to the subject property; the amount of the covered loan or the amount applied for; the action taken by the financial institution and the date of the action taken; State; county; census tract; sex; income; type of purchaser; whether the loan is subject to the Home Ownership and Equity Protection Act of 1994 (HOEPA); lien status of the subject property; and the total number of individual dwelling units contained in the dwelling related to the loan (number of units).

Hispanic and Latino ethnicities (*e.g.*, Mexican, Puerto Rican). To implement the change, the Filing Instructions Guide requires a reporter to populate up to five fields for ethnicity of an applicant and another five fields for a co-applicant. Similarly, prior to the 2015 rule, race was reported with five fields for applicants and co-applicants, with standard enumeration of being American Indian or Alaska Native; Asian; Black or African American; Native Hawaiian or Other Pacific Islander; and White. Under the 2015 rule, the enumeration of race expanded to allow detailed racial subgroups for Asian (*e.g.*, Asian Indian, Chinese) and Native Hawaiian or Other Pacific Islander (*e.g.*, Native Hawaiian). Reporters still populate up to five fields for the race of applicants and co-applicants, but now may report more detailed categories. Multiple free-form text fields were also added to allow applicants to provide and reporters to fill in race and ethnicity of applicants and co-applicants that are not included in the standard enumerations.[125]

The 2019 Data Point article provided a detailed analysis of how the revised race and ethnicity fields are reported under the new requirements. Most applicants who populated two or more race fields selected both an aggregate race and a more detailed race. For example, in the 2019 HMDA data, out of about 826,000 applicants for whom Asian was reported in the first field, 17.9 percent reported Asian Indian, 14.5 percent reported Chinese, 8.4 percent reported Filipino, and 6.3 percent reported Vietnamese in the second field. About 34 percent of applicants for whom Asian was reported in the first field had the second field as "not applicable" or missing. A slightly larger percentage (48 percent) of those who reported Native Hawaiian or Other Pacific Islander in the first field left the second field as "not applicable" or missing.[126]

Similar to race, most applicants who reported disaggregated ethnicity did so by selecting both an aggregated ethnicity and detailed ethnicity. For example, out of 1.6 million applicants who selected Hispanic or Latino in the first field, 27.6 percent selected Mexican, 6.2 percent selected Puerto Rican, 2.7 percent selected Cuban, and 8.9 percent selected other Hispanic in the second field.[127]

In the section-by-section analysis of the 2015 rule, the Bureau cited the need to conform to the OMB's standards for the classification of Federal data on ethnicity and race[128] and discussed how the disaggregated race and ethnicity categories could provide meaningful data for

[125] Free-form text fields for race and ethnicity are excluded from the public loan-level HMDA data.

[126] 2019 Data Point article at Table 3.2.3.

[127] 2019 Data Point article at Table 3.2.5.

[128] *See* Off. of Mgmt. and Budget, *Revisions to the Standards for the Classification of Federal Data on Race and Ethnicity*, 62 FR 58782-90 (Oct. 30, 1997) (OMB Federal Data Standards on Race and Ethnicity). The OMB encourages the collection of greater detail beyond the two minimum categories for ethnicity and the five minimum categories for race, and as such, agencies may use more detailed reporting at their discretion so long as any collection that uses more detail is organized in such a way that the additional detail can be aggregated into the minimum categories for data on ethnicity and race.

advancing HMDA's purposes. For instance, the Bureau noted that the data on subpopulation groups in the residential mortgage market will substantially advance the ability to better understand the market for particular subgroups and monitor access to credit and assist regulators and the public in determining whether discrimination against certain subpopulations is occurring in minority communities.

A number of reports have been published by the Bureau and community groups using the disaggregated race and ethnicity data to show that these data points provided meaningful information for advancing HMDA's purposes. The Bureau published a report in 2019, finding that while Asian American and Pacific Islanders (AAPI), as a group, fare well in mortgage markets, certain subgroups fared better than others. For example, Chinese and Asian Indian borrowers had lower denial rates and paid lower interest rates, on average, compared to Hawaiian or Pacific Islander borrowers.[129] The National Community Reinvestment Coalition (NCRC) published a report on Hispanic mortgage lending, which found that home lending patterns vary by geography and among those who identified as Cuban, Puerto Rican, and Mexican.[130] For example, the majority of Hispanic homebuyers identified as Mexican are in California, Texas and Arizona while most Hispanic homebuyers in Florida identified as Cuban or Puerto Rican. Most Hispanic homebuyers in New Jersey and New York identified as Puerto Rican. These reports inform policy makers and regulators on how subgroups within racial and ethnic minorities fare in mortgage markets and guide them in formulating appropriate responses.

In addition to requiring financial institutions to permit applicants and borrowers to self-identify using disaggregated race and ethnicity categories, the 2015 rule also required financial institutions to report whether race, ethnicity, or sex information was collected on the basis of visual observation or surname when an application is taken in person and an applicant does not provide the information.[131] The requirement that financial institutions collect and report the applicant and co-applicant's race, ethnicity, and sex on the basis of visual observation or surname preexisted in Regulation C prior to the 2015 rule, however, no corresponding flag

[129] Bureau of Consumer Fin. Prot., *Asian American and Pacific Islanders in the Mortgage Market* (July 1, 2021), https://www.consumerfinance.gov/data-research/research-reports/asian-american-and-pacific-islanders-in-the-mortgage-market/.

[130] Nat'l Cmty. Reinvestment Coal., *Hispanic Mortgage Lending: 2019 HMDA Analysis* (Nov. 17, 2020), https://ncrc.org/hispanic-mortgage-lending-2019-analysis/.

[131] For transactions where race and ethnicity information are provided by an applicant or a borrower, the 2015 rule requires financial institutions to permit applicants and borrowers to self-identify using disaggregated race and ethnicity categories. However, when race and ethnicity information is completed by the financial institution, the 2015 rule requires financial institutions to provide only aggregated race and ethnicity information.

existed to identify such records in the data. Recognizing the importance of such data to the purposes of HMDA, the 2015 rule added flags for financial institutions to identify such records.

The 2019 HMDA data show that there is no clear pattern across racial groups on the shares of race and ethnicity information that financial institutions collected on the basis of visual observation or surname. The share of applications with an Asian applicant was the least likely (4 percent), while that with a White Hispanic applicant was the most likely (6 percent) to have race and ethnicity information collected based on visual observation or surname. However, the difference between the two groups was very small at 2 percentage points.

The 2015 rule requires that the age of an applicant or a borrower and the age of the first co-applicant or co-borrower be reported in years. Age is one of the data points explicitly mandated under the DFA and is often correlated with familial status which is protected under the Fair Housing Act. ECOA prohibits a creditor from discriminating against an applicant in any aspect of a credit transaction on the basis of age. Moreover, various state laws prohibit discrimination based on age. Given that older adults are highly susceptible to financial scams and potential discriminatory lending practices, the age data play an important role in furthering HMDA purposes.

By adding age to the reporting requirement, the 2015 rule enhanced the HMDA data users' ability to identify whether financial institutions are serving the housing needs of their communities, identify possible discriminatory lending patterns, and enforce anti-discrimination statutes. The data show that the age distribution of mortgage borrowers varies across race and ethnicity. For instance, the 2019 Data Point article shows that the median age of Hispanic White borrowers was 41 and their average age was 43, making them the youngest group among all race and ethnicity groups. The median ages of Black and non-Hispanic White borrowers were both 46 in 2019.[132] Denial rates also vary by the age of applicants. With the exception of RHS/FSA loans, the denial rates of most closed-end mortgage applications generally increase with age. In particular, the denial rates for applicants aged 62 or older were higher than those for applicants younger than 62, except for HELOCs and reverse mortgages.[133] The patterns as summarized in the 2019 Data Point article would not have been observable without the new data point on age.

4.2.2 Property Characteristics: Construction Method, Total Units, Multifamily Affordable Units, Manufactured Home Secured Property Type, Manufactured Home

[132] 2019 Data Point article at Table 3.1.2.

[133] 2019 Data Point article at Figure 3.1.1.

Land Property Interest, Occupancy Type, Property Value

Prior to the 2015 rule, the property type was represented by a single data point indicating whether a property was a "one-to-four-family home", "a manufactured home", or "a multifamily home". The 2015 rule revised this, and starting with the 2018 HMDA data, this information has been captured by two data points: *Total Units* and *Construction Method*. To map these two data points to the previous definition of property types, site-built single-family homes ("one-to-four-family homes") are equivalent to properties whose *Construction Method* is reported to be 1 (site-built) and whose *Total Units* are less than or equal to four. "Manufactured homes" are equivalent to properties whose *Construction Method* is reported to be 2 (manufactured home). Site-built "multifamily homes" are equivalent to properties whose *Construction Method* is reported to be 1 (site-built) and whose *Total Units* are greater than four.

Mortgage loans secured by properties with one to four units are commonly referred to as single-family loans and represent most of the mortgage market covered by HMDA. However, within site-built single-family loans, important variations still exist corresponding to different numbers of units. For instance, Federal Housing Finance Agency (FHFA) set conforming loan limits separately for loans secured by one-, two-, three-, and four-unit properties.[134] This differentiation of conforming loan limits for single-family loans was legally required by the Housing and Economic Recovery Act of 2008 (HERA) and reflects important differences across single-family loans secured by different numbers of units. For complete applications[135] in 2019, about 14 percent of one-unit applications were denied. In contrast, the denial rates for two-, three- and four-unit applications were 18 percent, 19 percent, and 18 percent respectively. The higher denial rates for two- to four-unit property applications would not have been observable without the precise number of units being reported as a result of the 2015 rule.

Reporting the precise number of units furthers the HMDA's purposes by assisting public officials in targeting public investments and determining whether financial institutions are serving the housing needs of their communities. The precise number of units allows for better comparison among loans with similar numbers of dwelling units, thus facilitating the analysis of housing needs served by single-family as well as multifamily dwellings. The 2019 Data Point article shows that 65 percent of multifamily originations were for five to 24 units and about 9

[134] *See* Fed. Hous. Fin. Agency, *Calculation of 2022 Conforming Loan Limits under HERA* (Nov. 2021), https://www.fhfa.gov/DataTools/Downloads/Documents/Conforming-Loan-Limit/CLLAddendum_CY2022.pdf.

[135] Defined as applications that were denied plus applications that were approved but not accepted plus loans originated. The denial rates are calculated based on applications that were denied, divided by (applications that were denied plus applications that were approved but not accepted plus loans originated). The denial rate calculations do not include applications that were withdrawn or files that were closed for incompleteness.

percent of originations were for large multifamily dwellings with more than 150 units.[136] Multifamily dwellings may provide a solution to many urban areas with severe housing shortages. On the other hand, over 1,700 originated manufactured home loans were secured by more than four units.[137] Manufactured homes are a vital part of the housing market, providing affordable alternatives to site-built properties, especially in rural areas. These statistics would not have been available without the new data points. The information provides insights for public officials to effectively distribute public investments and allow regulators to examine if financial institutions are serving the housing needs of lower income communities.

The 2015 rule added a new data point called *Multifamily Affordable Units*. Reporters are required to report the number of individual dwelling units in multifamily dwelling properties securing the covered loans or, in the case of applications, proposed to secure the covered loans that are income-restricted pursuant to federal, state, or local affordable housing programs.

The information on the number of affordable units in multifamily dwellings furthers HMDA's purposes by providing greater detail on multifamily housing finance and informing stakeholders on whether financial institutions are serving the housing needs of communities. Multifamily housing units with income restrictions are commonly supported by government subsidies or tax credit incentives. Income restrictions are frequently part of compliance with programs that provide public funds, special tax treatment, or density bonuses to encourage development or preservation of affordable housing. A few examples of federal programs and funding sources related to affordable housing programs include affordable housing programs pursuant to Section 8 of the United States Housing Act of 1937 (42 U.S.C. 1437f) and public housing (42 U.S.C. 1437a(b)(6)).[138] A few examples of State and local funding sources that may result in individual dwelling units that are reportable as income restricted include State or local administration of Federal funds or programs.[139] As discussed in the Section-by-Section analysis of the 2015 rule, the Bureau believes that information on the number of income-restricted units in multifamily dwellings provides important insights into how public resources are distributed, and thereby assist public officials in distributing public-sector investment so as to attract private investment to areas where it is needed.

[136] 2019 Data Point article at Table 4.4.

[137] 2019 Data Point article at Table 4.3.

[138] Additional examples include: the HOME Investment Partnerships program (24 CFR part 92); the Community Development Block Grant program (24 CFR part 570); Multifamily tax subsidy project funding through tax-exempt bonds or tax credits (26 U.S.C. 42; 26 U.S.C. 142(d)); Project-based vouchers (24 CFR part 983); Federal Home Loan Bank affordable housing program funding (12 CFR part 1291); and Rural Housing Service multifamily housing loans and grants (7 CFR part 3560).

[139] Additional examples include State or local funding programs for affordable housing or rental assistance, including programs operated by independent public authorities; Inclusionary zoning laws; and tax abatement or tax increment financing contingent on affordable housing requirements.

The 2019 data show that about 6 percent of multifamily originations were for properties with at least one affordable unit and more than half of originations with at least one affordable unit were for exclusively income-restricted multifamily dwellings. In general, multifamily loans with a greater number of total units also had a greater share of affordable units.[140] A number of researchers have used the new HMDA data to study housing affordability in particular MSAs, informing stakeholders and policymakers on whether housing needs of communities are being met.[141]

The 2015 rule added two new data points on manufactured housing, namely *Manufactured Home Secured Property Type* and *Manufactured Home Land Property Interest*. Reporters of manufactured home applications and loans use the *Manufactured Home Secured Property Type* to indicate whether the covered loan or application is, or would have been, secured by a manufactured home and land, or by a manufactured home only. Manufactured home loans secured only by manufactured homes and not by lands are known as "home-only loans" and differ significantly from manufactured home loans secured by lands. In most states, manufactured home loans not secured by land are regarded as loans secured by personal property, instead of real property, and as such are less regulated. Borrowers of personal property loans could be subject to less consumer protection than borrowers of real estate loans. Furthermore, borrowers of manufactured home loans not secured by land typically face different rates and terms than those secured by lands. Before the 2015 rule took effect, manufactured home loans secured by land were not distinguishable in the HMDA data from those not secured by land. The 2015 rule added this data point, in order to shed light on this important distinction and help further HMDA's purposes.

Since the new HMDA data became available under the 2015 rule, researchers have published several studies related to manufactured homes using the new data point. According to these reports, the terms and conditions of manufactured home loans not secured by lands are generally worse than those that are secured by lands. The 2019 Data Point article shows that the median interest rate for home-only loan borrowers was 8.490 percent compared to that for manufactured home mortgage borrowers at 4.750 percent in 2019.[142] Other reports find that,

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140 2019 Data Point article at Table 6.9.1a & b.

141 Urban Inst., *Market: Keys Unlock Dreams Initiative*, Research Report (Sept. 2021), https://www.urban.org/research/publication/detroit-market-keys-unlock-dreams-initiative; Urban Inst., *The Micro Mortgage Marketplace Demonstration Project: Building a Framework for Viable Small-Dollar Mortgage Lending*, Urban Institute (Dec. 2020), https://www.urban.org/research/publication/micromortgage-marketplace-demonstration-project.

142 2019 Data Point article at Table 6.7.1.

home-only loan applicants are more likely to be denied, and home-only loan borrowers are less likely to refinance compared to manufactured housing mortgage or site-built borrowers.[143]

These findings would not have been possible without the new data points and have important implications related to HMDA's purposes. These data points also help determine if financial institutions are serving financially vulnerable populations. Borrowers in manufactured housing are typically more financially vulnerable than borrowers in site-built housing.[144] Because whether or not a borrower takes out a home-only loan has important implications for long-term affordability, the information on manufactured housing and loan terms is crucial in ensuring that financial institutions are serving the housing needs of financially vulnerable communities.

Manufactured Home Land Property Interest refers to ownership or leasehold type. In other words, reporters must report whether an applicant or a borrower: (i) owns the land on which the manufactured home is or will be located or, in the case of an application, did or would have owned the land on which it would have been located, through a direct or indirect ownership interest; or (ii) leases or, in the case of an application, would have leased the land through a paid or unpaid leasehold.[145]

As discussed above, manufactured home loans not secured by land typically are charged higher interest rates and are subject to less legal protection than manufactured loans secured by land. Concerns were raised by policymakers and researchers that some manufactured home loan borrowers who own lands were taking out manufactured home loans not secured by land. While it is unclear why this happens, a recent report found that many who qualified for a mortgage chose home-only financing potentially because of convenience or lack of awareness.[146] The existence of such phenomenon has serious consumer protection implications. Prior to the 2015 rule, no nationwide data were available to assess the extent to which landowners were taking out home-only loans. The limited research that existed was limited to Texas where such information

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143 Bureau of Consumer Fin. Prot., *Manufactured Housing Finance: New Insights from the Home Mortgage Disclosure Act* (May 27, 2021), https://www.consumerfinance.gov/data-research/research-reports/manufactured-housing-finance-new-insights-hmda/; Urban Inst., *It's Difficult for Manufactured Home Borrowers to Reap the Benefits of Historically Low Interest Rates* (Sep 17, 2021), https://www.urban.org/urban-wire/its-difficult-manufactured-home-borrowers-reap-benefits-historically-low-interest-rates.

144 Urban Inst., *It's Difficult for Manufactured Home Borrowers to Reap the Benefits of Historically Low Interest Rates* (Sep 17, 2021), https://www.urban.org/urban-wire/its-difficult-manufactured-home-borrowers-reap-benefits-historically-low-interest-rates.

145 The "indirect ownership" generally refers to resident-owned communities. The "unpaid leasehold" refers to instances where a borrower uses land without paying rent, which is often done when a manufactured home is on a family land.

146 Urban Inst., *Challenges to Obtaining Manufactured Home Financing* (June 2018), https://www.urban.org/research/publication/challenges-obtaining-manufactured-home-financing

was collected under state law.[147] One of the main shortcomings of the Texas Manufactured Home Ownership records data is the missing lien information for homes titled as real property. The 2015 rule required reporting of the *Manufactured Home Land Property Interest* data point, which allowed several reports to estimate the number of home-only loans. The Bureau report in 2021 shows that among manufactured housing loans in the 2019 HMDA data, about 42 percent of them were home-only loans.[148]

Occupancy Type is a data point that has long existed under HMDA. In the past, the occupancy type was defined as "owner-occupied as a principal dwelling" or "not owner-occupied." The 2015 rule revised the enumeration of occupancy type to include the following applicable categories: Principal Residence, Second Residence, and Investment Property.

In mortgage underwriting and pricing, financial institutions typically take into consideration the occupancy status, and separate the owner-occupied status into "principal residence" and "second residence". For example, the occupancy status is one of many factors upon which Loan-Level Price Adjustment (LLPA) factors are determined by Fannie Mae for mortgage loans delivered to them.[149] In the LLPA matrix, second homes and investment properties are listed separately. Therefore, by separating the owner-occupied data point further into principal residence and second residence, the 2015 rule provided more meaningful data that better reflect the industry practice in underwriting and pricing. In addition, the revisions of *Occupancy Type* and *Property Type* aligned the way financial institutions store the information to how the data points are reported to HMDA, thereby reducing burden on financial institutions.

Occupancy Type provides valuable information on owner-occupancy for determining how financial institutions are serving the housing needs of their communities and further understanding of how second homes and investment properties affect housing affordability.[150] Some researchers suggest that speculative purchases by investors were one of the drivers behind

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[147] Esther Sullivan, *Moving Out: Mapping Mobile Home Park Closures to Analyze Spatial Patterns of Low-Income Residential Displacement,* 16(3) City & Cmty 304 (2017), https://journals.sagepub.com/doi/10.1111/cico.12252

[148] Bureau of Consumer Fin. Prot., *Manufactured Housing Finance: New Insights from the Home Mortgage Disclosure Act* (May 27, 2021), https://www.consumerfinance.gov/data-research/research-reports/manufactured-housing-finance-new-insights-hmda/

[149] Fannie Mae, *Loan-Level Price Adjustment (LLPA) Matrix* (Apr. 6, 2022), https://singlefamily.fanniemae.com/media/9391/display.

[150] About 92 percent of all originated loans and lines of credit reported to HMDA in 2019 were secured by principal residences, 3 percent were secured by second residences and 5 percent were secured by investment properties. Characteristics of loans and borrowers vary by different occupancy types. Among conventional conforming closed-end loan borrowers, borrowers for second residences had higher median incomes ($158,000) and credit scores and took out larger loans than borrowers of loans of the other two occupancy types. Borrowers of investment properties had higher median incomes ($130,000) and credit scores than the borrowers of principal residences ($92,000), but they took out smaller loans, had lower CLTVs, and paid much higher interest rates than borrowers of principal and second residences (Table 6.1.2).

the recent housing bubble and subsequent financial crisis.[151] The data point identifies trends involving potentially speculative purchases of housing units and allows local officials to develop policies tailored to the unique characteristics associated with these separate segments of the mortgage market. Furthermore, the refined category of occupancy status provides meaningful data that otherwise would not have been available. Because occupancy status is correlated with both credit outcomes and borrower characteristics, refined grouping of occupancy status enhances a regulator's fair lending analysis.

The DFA requires lenders to report the values of properties securing the covered loans or, in the case of applications, the proposed covered loans. The reported values are the values relied upon in making the credit decisions.[152] As discussed elsewhere in this review, the 2015 rule switched the transactional coverage of HMDA to dwelling-secured. In other words, for any application for or origination of closed-end and open-end lines of credit to be reportable under the Regulation C, it must be secured by a dwelling. The value of the property or dwelling used to secure (or proposed to secure) the loans or applications takes on important implications as it reflects the collateral value of the transaction.

Property Values certainly affect the underwriting and pricing decisions. As discussed in the Section-by-Section analysis of the 2015 rule, knowing the property value in addition to loan amount allows regulators to estimate the loan-to-value ratio (LTV), which measures a borrower's equity in the property and is a key underwriting and pricing criteria. The 2019 Data Point article shows that the mean and median property values for properties securing the originated loans vary by loan types, loan purpose, occupancy type, and lien status. For example, the median property value securing RHS/FSA loans was the lowest at $148,000 in 2019 and that securing jumbo loans was the highest at $1.17 million.[153] Given the variations of property values across multiple dimensions as observed in the 2019 data, there is a strong case for requiring the collection and reporting of property values.

The *Property Value* data point furthers HMDA's purposes by providing the public and public officials with data to help determine whether financial institutions are serving the housing needs of their communities by providing information about the affordability of properties that are being financed. Property value information also provides opportunities for researchers to

[151] Fed. Reserve Bank of NY, *Staff Report No. 514 – Real Estate Investors, the Leverage Cycle, and the Housing Market Crisis* (Sept. 2011), https://www.newyorkfed.org/research/staff_reports/sr514.html.

[152] Property value is disclosed in the public loan-level data as the midpoint for the $10,000 interval into which the reported value falls.

[153] 2019 Data Point article at Table 6.2.1.

investigate property tax implications.[154] Furthermore, property value is also used to calculate LTV, which is one of many factors that lenders use to evaluate a borrower's credit worthiness. The data points such as property values and LTV assist regulators in identifying possible discriminatory lending patterns and enforcing antidiscrimination statutes by allowing similar loans to be compared and analyzed. We discuss this further in the next section.

4.2.3 4.2.3 Applicant and Borrower Characteristics: Credit Scores, CLTV, DTI, AUS

Other than an applicant's income, the HMDA data prior to the 2015 rule lacked key information on an applicant's and a borrower's credit characteristics. The 2015 rule improved upon that by requiring financial institutions to report the credit scores, combined loan-to-value ratio (CLTV), and debt-to-income ratio (DTI) of applicants. In addition, the 2015 rule also required reporting the results of Automated Underwriting System (AUS), which provides a comprehensive evaluation of applications during the underwriting process.

The 2015 rule, as directed by the DFA, required lenders to report information on the credit scores of applicants and co-applicants. Credit scores have been widely used in the lending industry since the 1990's for underwriting and pricing purposes, yet they were not collected under HMDA prior to the 2015 rule. Credit scores are reported in four standard data fields: *Credit Score of Applicant or Borrower*; *Credit Score of Co-applicant or Co-borrower*; *Name and Version of Credit Scoring Model for Applicant or Borrower*; *Name and Version of Credit Scoring Model for Co-applicant or Co-borrower*; and 2 conditional free form text fields if "other credit scoring model" is chosen for the *Name and Version of Credit Scoring Model*.[155]

Credit scores produced by different scoring models may differ in underlying data and methodology, and in some cases may even have different valid score ranges. For instance, the Vantage 2.0 score has a valid score range between 501 and 990, while the most recent FICO scores and Vantage 3.0 have a valid score range between 300 and 850. Therefore, in order to compare credit scores across applications, it is important to know the names and versions of the credit scoring models. The names and versions of the credit scoring models allow accurate analyses of whether financial institutions are serving the housing needs of their communities. In addition, credit score information is vital to understanding a financial institution's underwriting

[154] Carlos Avenancio-León & Troup Howard, *The assessment gap: Racial inequalities in property taxation*, 137(3) The Quarterly Journal of Econ. 1383 (2022), https://academic.oup.com/qje/article/137/3/1383/6522186

[155] Credit score and free form text fields used to report the name and version of credit scoring models are excluded from the public loan-level data.

and pricing decision for purposes of fair lending analysis and users of HMDA data may reach inaccurate conclusions without such information.

The 2019 Data Point article provides detailed analyses of credit score distributions. For instance, credit score distributions varied by loan types. Among originated closed-end loans, FHA borrowers had the lowest mean score in 2019 at 668, while jumbo loan borrowers had the highest mean score at 765.[156] Credit score distributions also varied by loan purpose, occupancy type, and lien status.[157]

The 2015 rule added CLTV as a new data point. Reporters are required to report the ratio of the total amount of debt secured by the property to the value of the property relied upon in making the credit decision as a percentage.[158] The 2019 Data Point article illustrates how CLTV distributions vary by loan type, loan purpose, race and ethnicity, age, neighborhood income, and geography. For instance, the median CLTV for conventional conforming loans was close to 80 percent whereas that for FHA loans was 96.5 percent.[159]

The 2015 rule added DTI as a new data point. DTI is reported as a percentage, which reflects the ratio of an applicant's or borrower's total monthly debt to total monthly income relied upon in making the credit decision. The 2019 Data Point article shows that the distributions of DTI vary by loan type, loan purpose, occupancy status, lien status, race, and ethnicity. For example, the median DTI for conventional conforming loans was 35 percent for non-Hispanic White borrowers compared to 40 percent for Hispanic White, 39 percent for Black, and 38 percent for Asian borrowers.[160]

Including DTI in the HMDA data improves fair lending analyses and enables government agencies to monitor the effectiveness of certain mortgage rules. For example, the 2019 Data Point article demonstrates that the relationship between denial rates and DTIs is correlated but

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[156] 2019 Data Point article at Table 6.4.2.

[157] 2019 Data Point article at Table 6.4.3.

[158] The 2015 rule did not add loan-to-value ratio (LTV) as a new data point. One can theoretically calculate LTV from the loan amount and the property value in the HMDA data. However, such LTV calculation may be subject to three constraints. First, the loan amount on the note reported under HMDA may be different from the loan amount used for LTV calculations by lenders per their underwriting and/or pricing policies. Especially for FHA, VA, and RHS/FSA loans, the upfront mortgage insurance premiums or funding fees are often financed through the loan and the financed amount is added to the mortgage note. However, FHA, VA or RHS/FSA programs typically exclude such financed insurance premium or funding fees from its LTV and CLTV calculation for qualifying purposes. Second, different lenders may use different rounding rules for LTVs that they rely on. Third, for users of the public HMDA data, the loan amounts and property values are both disclosed at the mid-points of 10,000-dollar intervals, which leads to a loss of precision when trying to divide the loan amounts by property values in order to calculate LTVs.

[159] 2019 Data Point article at Table 6.5.1.

[160] 2019 Data Point article at Table 6.6.3.

not linear.[161] The denial rates for DTIs above certain thresholds increase sharply with higher DTIs, but for the DTIs below the thresholds, the denial rates may actually decrease with higher DTIs, likely due to other confounding factors that are correlated with DTIs but not captured. On the other hand, DTI was a criterion for determining whether a loan was a qualified mortgage (QM) under the Bureau's Ability-to-Repay and Qualified Mortgage Rule (ATR-QM Rule). Therefore, requiring financial institutions to collect and report DTIs enabled government agencies to better monitor and evaluate the effectiveness of the ATR-QM Rule.

The new data points on applicant and borrower credit characteristics - such as credit scores, CLTVs, and DTIs - allow for more accurate accounting of the differences in underwriting and pricing policies that financial institutions apply. Credit scores, CLTVs, and DTIs are key Loan-Level Price Adjustors (LLPA) for mortgage loans delivered to Fannie Mae.[162] Therefore, inclusion of credit characteristics is especially crucial when understanding disparities in underwriting or pricing outcomes across demographic groups.[163] Omitting key variables such as credit characteristics from underwriting or pricing model risks incorrectly attributing disparities in outcomes to demographic characteristics.[164] Accounting for applicant's and borrower's credit characteristics improves fair lending analysis and thus leads to a more accurate identification of possible discriminatory lending patterns and a better enforcement of antidiscrimination statutes.

The 2015 rule required financial institutions to report the names of the AUS they used to evaluate applications and the recommendation generated by the AUS. AUS is often used by lenders to: 1) determine whether a loan is eligible to be purchased by secondary market institutions (mostly the GSEs) or insured or guaranteed by a federal government agency (FHA, VA, USDA), and 2) evaluate the credit risk of a loan so as to obtain a system recommendation on whether a loan is acceptable to secondary market institutions or a government agency, under the representations and warranties of loan, property, and borrower credit risk characteristics, given

[161] 2019 Data Point article at Figure 6.6.7.

[162] Fannie Mae, *Loan-Level Price Adjustment (LLPA) Matrix* (Apr. 6, 2022), https://singlefamily.fanniemae.com/media/9391/display

[163] Alicia H. Munnell *et al.*, *Mortgage lending in Boston: Interpreting HMDA data*, 86(1) The Am. Econ. Review 25 (1996), https://www.bostonfed.org/publications/research-department-working-paper/1992/mortgage-lending-in-boston-interpreting-hmda-data.aspx

[164] Although HMDA data have consistently shown that denial rates for Black and Hispanic White applicants are generally higher than those for non-Hispanic White and Asian applicants, the post-2015 rule HMDA data also show that the credit characteristics of Black and Hispanic White applicants, on average, are worse than those of non-Hispanic White and Asian applicants. In addition, as the 2019 Data Point article highlights, denial rates are, on average, highly correlated with credit characteristics. Therefore, any analysis of potential racial disparities in denial rates should control for credit characteristics in order to examine the extent to which such disparities can be attributed to credit characteristics.

the business rules and risk tolerance levels set by secondary market institutions or government agencies.

Government insurance or guarantee does not replace the underwriting responsibilities of lenders. In fact, applications that receive a "refer" or "caution" recommendation from AUS can still be originated. Conversely, applications that receive a "eligible" or "accept" recommendation from an AUS can still be denied by lenders, based on their own underwriting and risk tolerance. Given that most loans originated in today's market are delivered to the GSEs or insured or guaranteed by federal government agencies (FHA, VA, USDA), the recommendations from an AUS have a strong influence on lenders' underwriting outcomes.

An AUS typically incorporates multiple factors and business rules. Many factors in the "black box" model of an AUS could extend beyond the credit risk factors that are reported and collected under the 2015 rule. Furthermore, the factors considered in an AUS are typically combined in highly complex ways into one easy-to-use indicator of eligibility and recommendation for an application. Therefore, AUS results provide the most comprehensive summary of risk and eligibility of an application in a single data point.

We examine the contribution of borrower credit-related characteristics in estimating a generic underwriting model. Given that AUS result provides the most comprehensive summary of credit risk, we compare its contribution relative to that of *Credit Score*, *CLTV*, and *DTI* in predicting the likelihood of an application being denied. For this exercise, we begin with an underwriting model specified below and iteratively drop one variable at a time to estimate the contribution of each variable in predicting denial rates.[165]

$$\text{Denial} = \text{Loan Purpose} + \log(\text{Loan Amount}) + \log(\text{Income}) + \text{Credit Score} + \text{CLTV} + \text{DTI} + \text{AUS Result}$$

We use the 2019 HMDA data; however, the findings remain largely consistent when data from other years are used. The estimation sample is limited to applications for 30-year fixed rate, first-lien, site-built, single-family, principal residence, closed-end loans excluding reverse mortgages to account for underwriting criteria that likely vary across mortgage products.[166] The final analysis sample consists of approximately 6 million observations.

[165] The underwriting model employed here is a simplified model used for an illustrative purpose. Lenders likely use an underwriting model that is much more complex. However, since the main goal of the analysis is to explore the relative importance of the new data points, an accurate model specification is not a major concern.

[166] We also dropped about 16,000 observations that had any of the following features: balloon payment, interest-only payments, negative amortization, and other non-amortizing features.

FIGURE 1: CUMULATIVE ACCURACY PROFILE CURVE OF THE FULL MODEL AND THE MODEL EXCLUDING CREDIT SCORE

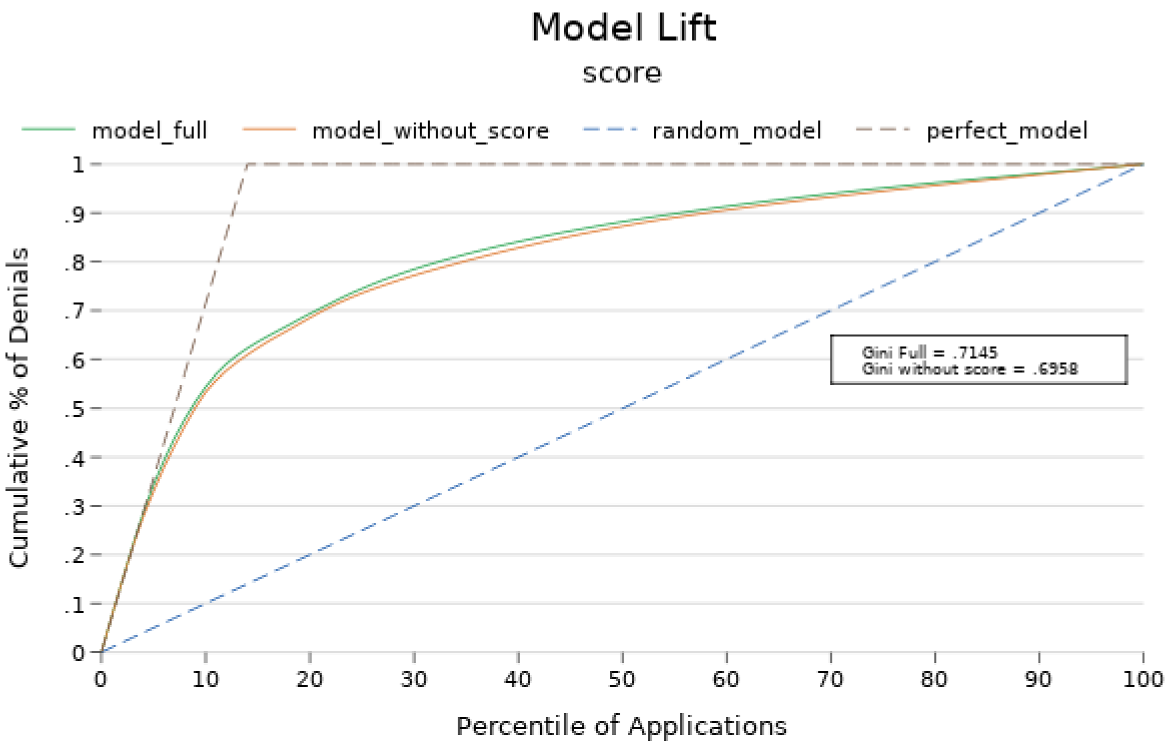

Figure 1 shows the performance of a full model compared to that of a model without the *Credit Score* data point. The 45-degree line represents a performance of a “random model”, whereas the dashed line close to the top horizontal line represents a performance of a “perfect model”. The “perfect model” would rank order denied and approved applications to perfectly predict the denial rate. The solid green line, which lies in between the two dashed lines, illustrates how well a full model performs in predicting denials compared to a random and a perfect model. The orange line presents the predictive power of a model that excludes *Credit Score*. The difference in values of the Gini coefficient between the two models indicate how much the variable *Credit Score* contributes to predicting denials.

In this analysis, a Gini coefficient is used to estimate each variable’s predictive power. The Gini coefficient, or Somers’ D, is a commonly used metric in model building. The metric indicates the model’s discriminatory power and is often used to compare the quality of different models by evaluating their predictive power. In practice, it is a ratio that represents how close the model is to a “perfect model” and how far it is from a “random model.” A model that is close to a “perfect model” would have a Gini coefficient close to 1. On the other hand, a “random model” would have a Gini coefficient of 0.

Table 1: GINI COEFFICIENTS

Model	Gini Coefficient	Diff in Gini from full
Full model	0.7145	
Credit score	0.6958	0.0187
CLTV	0.7056	0.0089
DTI	0.6796	0.0349
AUS result	0.6215	0.0930

Table 1 presents the Gini coefficient of each model excluding only one particular data point and the associated difference in values of the Gini Coefficient between a full model and a "drop one data point" model. First, the Gini coefficient of 0.7145 for a full model indicates that a full model performs well in predicting denials. Second, the Gini coefficients for the "drop one data point" models range from 0.6215 to 0.7056. The model without *CLTV* had the highest value and the model without *AUS Result* had the lowest value. In other words, *AUS Result* had the highest predictive power.

The fact that *AUS Result* had the highest predictive power is not surprising. The recommendation generated by an AUS reflects the likelihood of a loan's default based on credit characteristics. Therefore, *AUS Result* is the most important predictor for estimating the likelihood of a loan's denial. This finding is consistent with a study from Bhutta et al. (2021) who also found the importance of AUS recommendations in explaining racial disparities in mortgage application outcomes.[167]

4.2.4 Loan Characteristics: Open-end Flag, Reverse Mortgage Flag, Business/Commercial Purpose, Loan Purpose, Loan Term, Fixed/ARM, Balloon, Interest Only, Negative Amortization, Other Non-Amortizing Feature, Prepayment Penalty Term, Submission of Application, Initially Payable, Loan Amount

The 2015 rule added a new data point consisting of a flag for open-end lines of credit (LOC). This was in response to the change in transaction coverage that is discussed in Chapter 3. The 2015 rule switched the reporting requirements to a dwelling-secured standard, which resulted in open-end LOCs secured by a dwelling being newly required for reporting. Prior to the 2015 rule, the reporting of open-end LOCs was optional, and it was the Bureau's belief that few, if any, reporters reported open-end LOCs under HMDA. Specifically, under the 2015 rule, institutions

[167] Neil Bhutta et. al., How much does racial bias affect mortgage lending? evidence from human and algorithmic credit decisions? Evidence from Human and Algorithmic Credit Decisions, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3887663 (July 15, 2021).

that originated at least 100 open-end LOCs in each of the two preceding calendar years and met other reporting criteria would have been required to report data on open-end LOCs beginning with the data collected in 2018 and reported in 2019. The 2017 HMDA Final Rules amended these thresholds such that, for data collected in 2018 through 2021, institutions originating at least 500 open-end LOCs in each of the two preceding calendar years were required to report open-end LOC data. Under the 2020 HMDA Final Rule, beginning January 1, 2022, the threshold was set to 200 open-end LOCs. Because open-end LOC transactions were newly reported, the flag identifying open-end transactions was also added. Chapter 3 includes additional information on open-end lines of credit and their reporting institutions.

Open-end LOCs secured by dwellings are different from closed-end mortgage loans in several aspects. For instance, compared to closed-end mortgages, open-end LOCs are more likely to have a smaller loan amount and higher interest rates.[168] Applicants of open-end LOCs are more likely to be denied. In addition, open-end LOC borrowers are more likely to be non-Hispanic White, have higher income, and live in high-income tracts and metropolitan areas than closed-end borrowers. [169] The distribution of credit scores, CLTV and DTI of open-end LOCs also vary significantly from closed-end mortgages. These observations would not have been possible without the mandatory reporting requirement of the open-end LOCs or the open-end LOC flag.[170] The data points serve HMDA's purposes by allowing regulators to distinguish open-end LOCs from closed-end loans, which results in a more accurate fair lending analysis, and assessment of whether lenders are meeting their communities' housing needs.

The 2015 rule added a new data point indicating whether a loan or an application is for a *reverse mortgage*. Prior to the 2015 rule, if a reporter met the reporting criteria, then reverse mortgages had to be reported; however, no flag existed to indicate whether a record was a reverse mortgage or not. Reverse mortgages play an important role in financial and housing markets. They are designed to serve seniors who have sufficient equity in their homes, have certain cashflow needs

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[168] Both open-end LOCs and closed-end mortgages exclude reverse mortgages.

[169] 2019 Data Point article at Tables 2.3.2-2.3.5.

[170] It is important to point out that when the 2018 Economic Growth, Regulatory Relief, and Consumer Protection Act (EGRRCPA) granted partial exemptions on a number of data points for certain depository institutions and insured credit unions, the partial exemptions were set separately for open-end and closed-end transactions. However, because EGRRCPA's partial exemptions apply to all data points added under the Bureau's discretionary authority, the open-end LOC flag was among the data points from which qualified financial institutions would be exempt. This created a dilemma as a recent GAO report pointed out: "With regard to oversight, regulators were unable to readily verify some lenders' eligibility for partial exemptions because not all HMDA reporting included data on whether each loan is an open-end line of credit. This data point is one of the new data points required since 2018, and lenders with exemptions are not required to provide it. Without it, however, it is difficult for regulators to determine if the lender is below the loan volume level required for partial exemption eligibility. The HMDA data that lenders with partial exemptions need not report are set in statute." For more information, see U.S. Gov't Accountability Off., *Home Mortgage Disclosure Act: Reporting Exemptions Had a Minimal Impact on Data Availability, but Additional Information Would Enhance Oversight* (May 17, 2021), https://www.gao.gov/products/gao-21-350

and are willing to convert some of the equity into cash while maintaining homeownership. Reverse mortgages are different from traditional forward mortgages and LOCs in terms of their intended purpose, characteristics, and customer base.

The 2019 Data Point article analyzed reverse mortgages separately from other types of loans and demonstrated how they differed. For instance, borrowers of reverse mortgages were much older than those of other loan types. Because the senior population that reverse mortgages are designed to serve is generally more vulnerable than younger borrowers, it is important from a consumer protection perspective to have this flag in the HMDA data.

The 2015 rule added a new data point called *Business/Commercial Purpose*, a flag that indicates whether a loan or an application is primarily for a business or commercial purpose. Prior to the 2015 rule, because the HMDA reporting coverage was based on the loan purpose test, all HMDA-reportable transactions had to be for one of the three loan purposes: home purchase, home improvement, or refinance. With the switching of reporting coverage to the dwelling-secured standard, some loans and LOCs that were primarily for a business and commercial purpose were newly included in the HMDA data.[171]

Business and commercial purpose flags allow regulators to not only check the reporter's data integrity but also conduct more accurate fair lending analyses. The reporting requirements of some data points differ when transactions are primarily for commercial purpose versus consumer purpose. For instance, by the 2015 rule, FIs do not have to report data points such as Total Loan Costs, Total Points and Fees, Origination Charges, Discount Points, Lender Credits, and Prepayment Penalty for business or commercial purpose transactions. The business or commercial purpose flag allows regulators to ensure financial institutions are complying with the HMDA reporting requirements. In addition, fair lending analyses can better account for different underwriting and pricing policies that exist for business or commercial purpose loans.

The 2015 rule revised the enumeration of the *Loan Purpose* data point to include two new reporting options: "other purpose" and "cash-out refinance." As mentioned previously, prior to the 2015 rule, the HMDA reporting requirement was based on a loan purpose test and all HMDA-reportable transactions had to be for one of the three loan purposes: home purchase, home improvement, or refinance. These were the only available enumerations for *Loan Purpose*

[171] In 2019, about 4 percent of originations were primarily for business and commercial purpose. About 3 percent of site-built single-family or manufactured home originations were for business or commercial purpose. On the other hand, the majority of site-built multifamily home originations were for business or commercial purpose (2019 Data Point article at Table 5.1.2). In addition, about 96 percent of originated loans that were primarily for business or commercial purposes (271,000 loans) were for investment properties (2019 Data Point article at Table 5.1.5). Approximately 42 percent of all single-family business or commercial primary purpose originations (118,000 loans) had race and ethnicity reported as "not applicable", because a large share of those loans were taken out by non-natural persons (*e.g.*, corporation, partnership, or trust) (2019 Data Point article at Table 5.1.6).

before the 2015 rule. The "other purpose" option was added to accommodate the modification of the reporting requirement in the 2015 rule. With the switch from loan purpose to the dwelling secured standard, some transactions that were not for the purposes of home purchase, home improvement, or refinance, but were secured by dwellings became reportable and were categorized under "other purpose" for *Loan Purpose*.

As shown in the 2019 Data Point article, there were about 485,000 originated loans with a loan purpose of "other purpose" in 2019, constituting about 5 percent of all originated loans. These loans would not have been reported under HMDA prior to the 2015 rule. About 54 percent of closed-end mortgages that reported their loan purpose as "other purpose" were secured by the first lien, which is a much lower share than those for home purchase and refinance loans.[172] This illustrates the importance of the "other purpose" enumeration for *Loan Purpose*.

With the changes to loan purpose, refinance loans can now be broken down further into no- or limited cash-out refinance loans[173] versus cash-out refinance loans. For cash-out refinance loans, borrowers take cash out while refinancing an existing loan by tapping into home equity. In general, a cash-out refinance increases the risk of potential future default since the equity position of a consumer in a dwelling is reduced. In 2019, 25 percent of originated loans were for non-cash-out refinance loans and 16 percent were for cash-out refinance loans.[174]

The new cash-out refinance enumeration allows data users to identify cash-out from non-cash-out refinance loans and enhances regulators' ability to monitor consumer risk and systemic risk to the financial system. Cash-out refinance is one of the LLPA factors determined by Fannie Mae for mortgage loans delivered to them. In other words, cash-out refinance loans are typically charged higher prices compared to non-cash-out refinance loans, holding all other factors constant.[175] Therefore, by separating cash-out from non-cash-out refinance loans, the revised data point better reflects legitimate credit risk factors that affect pricing outcomes. When fair lending analyses are conducted, where the differences in interest rates or other pricing measures are assessed across protected classes, the revised data point undoubtably improves the ability of government regulators, researchers and other data users to build better models to detect potential discrimination.

The 2015 rule, as directed by the DFA, added *Loan Term* as a new data point that must be reported. Loan term under Regulation C is defined as the number of months after which the

[172] 2019 Data Point article at Table 5.2.1

[173] These are sometimes called term and rate refinance.

[174] 2019 Data Point article at Table 5.2.1

[175] 2019 Data Point at Table 7.1.2 (shows that the median interest rate of cash-out refinance loans was higher than that of non-cash-out refinance loans for all loan types).

legal obligation will mature or terminate, or for applications, would have matured or terminated. Loan term is one of the most important features of any loan product except for reverse mortgages, which have no fixed terms. Loan term is an important determinant of underwriting and pricing outcomes. Like many other new data points, loan term was not a required data point in HMDA prior to the 2015 rule. By adding this data point, the 2015 rule improved the ability of data users to analyze underwriting and pricing outcomes to better serve HMDA's purposes.

Interest rates are generally correlated with loan terms.[176] Moreover, the distribution of loan terms across borrowers from different demographic groups also varied.[177] To the extent underwriting and pricing outcomes are correlated with loan terms and borrowers from different demographic groups are distributed unevenly across various loan terms, controlling for loan terms when examining the differences in credit outcomes across groups improves the fair lending analysis and reduces chances of false negatives during fair lending prioritization processes.

The 2015 rule, as directed by the DFA, added the *Introductory Rate Period* data point to the reporting requirements. Introductory rate period is defined as the number of months, or proposed number of months in the case of an application, until the first date the interest rate may change after closing or an account opening. For fixed-rate mortgages, this data point is reported as "not applicable".

Most loans or applications reporting an introductory period are adjustable-rate mortgages, which are commonly known as ARMs. ARMs include a "hybrid ARM" that offers a fixed rate for a predetermined period and then rates are adjusted periodically for the rest of the loan term. Other ARMs have an introductory rate period after which the interest rate resets to a predetermined fixed rate in what is known as a "step-rate product." ARM borrowers may face interest rate shocks when an introductory rate period expires. In industry practice, ARM products are typically regarded as distinct from fixed rate mortgage products and are underwritten and priced differently. Some researchers have argued that the wide-spread use of

[176] The 2019 Data Point article shows that the median interest rate for conventional conforming fixed-rate 30-year loans was 4.125 percent, whereas that for 20- and 15-year loans were 4.0 percent and 3.625 percent, respectively. The median interest rate for a 5-year loan, which was the shortest-term among the most common loan terms, was the highest at 4.95 percent (2019 Data Point article at Table 7.1.5).

[177] Black (86 percent) and Hispanic borrower (87 percent) were more likely than non-Hispanic White (80 percent) and Asian borrowers (81 percent) to take out 30-year term loans.

ARM products with low introductory rates leading up to the Great Recession exacerbated the risks that borrowers took and created consumer harm.[178]

Prior to the 2015 rule, HMDA data contained no indicator that could distinguish loans with an introductory rate period from fixed rate mortgages. With the new data point, the HMDA data clearly show patterns that could not have been observed in the HMDA data prior to the 2015 rule taking effect. According to the 2019 Data Point article, the median interest rate for ARMs is lower than that for fixed-rate loans.[179] This is not surprising because the interest rates reported under the 2015 rule for ARMs were only the initial rates. Nevertheless, with introductory rate period being reported, it is now possible to know when the interest rates will reset after the end of an introductory period, and for government agencies, community groups and researchers to better understand the interest rate risks that consumers may face.

The characteristics of borrowers taking out loans with an introductory rate period differs from those taking out fixed rate mortgages.[180] Because of such key differences and the fact that introductory interest rates of ARMs are lower than the interest rate of fixed rate mortgages, having the ability to control for ARM features provides more reliable estimates of disparities in credit outcomes across different groups and reduces false positives for fair lending prioritization processes.

The 2015 rule added non-amortizing loan features as information to be reported. Reporters are required to indicate whether the contractual terms of a loan or an application include or would have included any of the following: (1) a balloon payment; (2) interest-only payments for a period of time; (3) a contractual term that would cause the covered loan to be a negative amortization loan; or (4) any other contractual term that would allow for payments other than fully amortizing payments during the loan term. The information is reported through four data

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[178] Lauren M. Ross et.al.,. The personal costs of subprime lending and the foreclosure crisis: a matter of trust, insecurity, and institutional deception, 92(2) Soc. Science Quarterly 140.

[179] The median interest rate for ARM jumbo was 3.375 percent, whereas that for fixed-rate jumbo loans was 3.875 percent (2019 Data Point article at Table 7.1.4).

[180] Asian borrowers were the most likely to take out ARMs (14 percent), compared to 6 percent of non-Hispanic White, 3 percent of Black, and 3 percent of Hispanic White borrowers. ARMs account for a higher percentage (8 percent) of all closed-end mortgage originations in high-income census tracts than in middle-income (5 percent) or low- and moderate-income tracts (4 percent). In addition, borrowers in rural areas were more likely (7 percent) than borrowers in micropolitan (6 percent) or metropolitan statistical areas (6 percent) to use ARMs. (2019 Data Point article at Table 5.4.2)

points: *Balloon Feature, Interest Only Payments*, *Negative Amortization,* and *Other Non-amortizing Feature*.[181]

The wide use of mortgages with non-amortizing features in the run-up to the financial crisis in 2007 has been well documented for contributing to the crisis. Even though loans with non-amortizing features may convey certain benefits to some consumers with specific needs and sophistications, they present higher risks for many consumers. The 2015 rule, as directed by the DFA, added the non-amortizing feature data points to the HMDA reporting requirements so that such features can be tracked. As the new HMDA data shows, in the post-Great Recession, loans with non-amortizing features are no longer prevalent in the marketplace for closed-end mortgages. Only about 122,000 originated closed-end mortgages included a balloon payment, and another 158,000 or 2 percent of them had an interest-only feature. Moreover, only about 1,200 closed-end originations had negative amortization features, and 11,000 closed-end originations were associated with other non-amortizing features.[182] Despite the scarcity of loans with non-amortizing features in recent years, keeping track of such features in the HMDA data can help prevent another financial crisis when market trends and conditions change.

The DFA, as implemented by the 2015 rule, requires the collection and reporting of the existence of a prepayment penalty term. The data point *Prepayment Penalty Term* is defined as the term, in months, of any prepayment penalty of a loan or an application. A prepayment penalty is not common among traditional mortgages in the U.S. financial system. But when present, a prepayment penalty can hinder consumers' ability to prepay their loans through voluntary payoff or refinance and is regarded as a risky feature with negative implications for consumer welfare. Therefore, the DFA mandated that a data point indicating prepayment penalty term be added to the HMDA reporting requirements. As the 2019 Data Point article shows, loans with a prepayment penalty term only account for a very small fraction of closed-end mortgages.[183] Furthermore, a prepayment penalty term is more likely to be present with particular loan

[181] The 2019 Data Point article presents some characteristics of borrowers and loans by different non-amortizing features for closed-end mortgages. Notably, interest-only borrowers had much higher incomes than other borrowers. In 2019, the median income of interest-only borrowers was $194,000 per year, compared to that of borrowers with non-interest-only loans at $90,000 (Table 5.5.3). Borrowers in rural areas (6.1 percent) were more than three times as likely to obtain loans with balloon features than those in metropolitan areas (1.4 percent) (2019 Data Point article at Table 5.5.6). Non-Hispanic White borrowers were slightly more likely to obtain balloon or interest-only loans than minorities, even though the shares of borrowers with balloon or interest-only loans were small across all racial groups at less than 2 percent (2019 Data Point article at Table 5.5.4).

[182] 2019 Data Point article at Table 5.5.2.

[183] In 2019, among closed-end mortgages, only about 0.5 percent of all conventional conforming originations and 0.3 percent of all jumbo originations were reported to have a prepayment penalty term. Loans with prepayment penalties were non-existent among FHA, VA, and RHS/FSA loans. In contrast, a prepayment penalty term was much more common among HELOCs, accounting for about 24 percent of all HELOC originations in 2019 (2019 Data Point article at Table 5.6.1).

features or for certain race and ethnicity groups.[184] Because a prepayment penalty may represent higher consumer risk, having this new data point in the HMDA data helps serve HMDA's purposes.

The 2015 rule, as directed by the DFA, required reporting of the application channel of a covered loan or an application. The application channel is reported through two separate data fields: 1) whether an applicant or a borrower submitted an application directly to the reporting institution (*Submission of Application*); and 2) whether the obligation arising from a covered loan was, or, in the case of an application, would have been, initially payable to the reporting institution (*Initially Payable*). As laid out in the section-by-section analysis of the 2015 rule, loan terms and rates that a financial institution offers an applicant may depend on how an applicant submits an application (*i.e.*, retail, wholesale, or correspondent channel).[185] Thus, identifying transactions by channel can help users interpret loan pricing and other information in the HMDA data. In addition, the information can inform regulators if certain channels present greater risks for consumers.

The 2019 Data Point article explains in detail how a combination of the two data points guides data users to characterize application channels into retail, wholesale, correspondent, or broker channels.[186] In general, a key to categorizing wholesale-correspondent or wholesale-broker channels is to determine which entity makes a credit decision on an application. The chart below illustrates how *Submission of Application* and *Initially Payable* data points align with application channels that are commonly used by the HMDA reporters.

Chart 1: Classification of Application Channels

184 Of the HELOCs with adjustable rates, 27 percent had a prepayment penalty term, compared to 12 percent of HELOCs with a fixed rate. HELOCs with balloon features were less likely than HELOCs without balloon features to carry a prepayment penalty term, at 17 percent compared to 25 percent. Similarly, HELOCs with interest-only payments were slightly less likely to have a prepayment penalty term (22 percent) than HELCOs without interest-only payments (26 percent). HELOCs reported with "other non-amortizing features" did not have a prepayment penalty term. In 2019, 32 percent of Asian borrowers had a prepayment penalty term on their HELOCs, a much higher rate than all other race and ethnicity groups (2019 Data Point article at Table 5.6.3). For both closed-end loans and open-end LOCs, prepayment penalty terms of 36 months, 24 months, and 12 months were the most common prepayment terms, in that order, and accounted for most of the originated loans or LOCs with a prepayment term (2019 Data Point article at Table 5.6.4).

185 *See, e.g.,* Ctr. For Responsible Lending, *Steered Wrong: Brokers, Borrowers, and Subprime Loans* (April 2008), http://www.responsiblelending.org/mortgage-lending/research-analysis/steered-wrong-brokers-borrowers-and-subprime-loans.pdf.

186 The rest of the discussion uses the term "wholesale" as a channel comprising of both correspondent and broker channels. The term "wholesale-correspondent" refers to a correspondent channel in a lender's wholesale business that is separate from its retail business; and the term "wholesale-broker" refers to a broker channel in a lender's wholesale business that is separate from its retail business. Some lenders in the industry may use "wholesale" in reference to only its broker channel, or correspondent channel, or both. In general, a broker would not meet all the relevant coverage criteria to be a "financial institution" as defined by § 1003.2(g) in Regulation C, and therefore would not be a reporter under HMDA.

		Initially Payable	
		Yes	No
Directly Submitted	Yes	The reporter made the credit decision and the loan was closed in the reporter's name. The reporter likely originated the loan in its retail channel but could participate in the wholesale-correspondent channel of another lender with delegated underwriting authority.	The reporter made the credit decision pursuant to delegated underwriting authority. The loan closed in the name of another lender. The reporter belongs to wholesale channel of that lender.
	No[187]	The reporter made the credit decision without delegating its underwriting authority. The loan was closed in the reporter's name. The reporter originated the loan in its wholesale-correspondent or wholesale-broker channel.	The reporter made the credit decision without delegating its underwriting authority. The loan was not closed in the reporter's name. The reporter originated the loan in its wholesale- correspondent channel.

As the 2019 Data Point article shows, about 85 percent of all originations in 2019 were directly submitted and initially payable to the reporting institution, making it the most important channel. Loans that were not directly submitted but were initially payable to the reporter accounted for about 10 percent of all originations and ranked as the second most common channel.[188] The distribution of closed-end origination channels varies across borrower's race and ethnicity, age, and geography.[189] More interestingly, the denial rates for complete applications

[187] It is also possible that the reporter made the credit decision on a covered loan or application through the actions of an agent. For the purpose of this illustrative chart, such cases are generally similar to the cases in which the reporter made the credit decision without delegating its underwriting authority.

[188] 2019 Data Point article at Table 5.7.1.

[189] Non-Hispanic White borrowers (85 percent) were the most likely to have loans that were directly submitted and initially payable to the reporting institutions compared to Asian (72 percent), Black (84 percent), or Hispanic White borrowers (79 percent) in 2019. In addition, the percentage of borrowers using the directly submitted, initially

within each loan type also varied by application channels. For instance, the denial rate for the directly-submitted, initially-payable channel was 14 percent, which is higher than the denial rates for the three other channels in a conventional conforming market.[190] Application channel information enhances fair lending analyses by allowing regulators and data users to account for distinct underwriting and pricing policies that exist for various channels.

Loan Amount is a data point that has long been reported and disclosed under HMDA. Prior to the 2015 rule, loan amount was reported at the amount rounded to the nearest thousand dollar and was disclosed to the public without any modification. The 2015 rule required financial institutions to report in exact dollar amounts.[191]

Reporting of loan amounts in exact dollars reduced reporters' burden and also allowed for more accurate construction of conforming loan status. First, the 2015 rule required reporting of only CLTVs and not LTVs.[192] The 2015 rule reasoned that more detailed reporting of loan amounts would allow users to calculate LTVs directly, by dividing total loan amounts by property values. For the purpose of this review, the Bureau believes that reporting exact loan amounts allows calculations of LTVs without additional burden on financial institutions. Loan amounts are stored in most lenders' systems in exact amounts, and thus, not having to round up loan amounts to the nearest thousand for HMDA reporting purposes likely reduces the burden on financial institutions. Second, reporting of loan amounts in exact dollars allows more accurate determination of whether a loan or an application exceeds various loan limits. For example, FHFA sets conforming loan limits each year under which a mortgage becomes eligible to be acquired by Fannie Mae or Freddie Mac. Such conforming loan limits are set in *tens* of dollars. Therefore, loan amounts reported in exact dollar amounts allows for more accurate classification of conforming loan status than those reported in thousands of dollars as was the case prior to the 2015 rule.[193]

All of the aforementioned data points improve the monitoring of mortgage markets and help identify and prevent problems that could potentially harm consumers. For example, a

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payable channel was higher for an older age group in general. Nearly 86 percent of borrowers in rural areas and 87 percent of borrowers in micropolitan statistical areas obtained a loan through the directly-submitted, initially-payable channel, compared to 83 percent of borrowers from metropolitan statistical areas (2019 Data Point article at Table 5.7.2).

[190] 2019 Data Point article at Table 5.7.3.

[191] In order to protect the privacy of borrowers and applicants, the loan amount is disclosed in the public loan-level data as the midpoint of the $10,000 interval into which the reported value falls.

[192] For loans or LOCs secured by properties with multiple liens, CLTVs and LTVs differ, and both are important for underwriting and pricing.

[193] The public loan-level HMDA data contains a flag indicating whether the reported loan amount exceeds the "Conforming Loan Limits" at the time of an application or origination.

Business/Commercial Purpose flag along with the *Multifamily Affordable Unit* data point can illuminate whether lenders are serving housing needs of low- and moderate-income communities, since business lending is crucial to the development and preservation of rental housing.[194] *Open-end LOC* and *reverse mortgage* flags are related to certain high-risk lending concerns, and reporting of this information enables a better understanding of the types of products and features consumers are receiving. Recent regulations such as the Ability-to-Repay have limited the types of risky mortgage products that lenders can make without fully considering borrowers' ability to repay. Therefore, new data points on loan characteristics assist future assessment of the effectiveness of such regulations and facilitate adjustments when needed.

The data points on loan characteristics also make initial fair lending prioritization and screening more efficient for regulators. For example, underwriting and pricing policies often differ for open-end LOCs, closed-end home-equity loans, reverse mortgages, and products with different amortization types. Prior to the 2015 rule, these products were all combined during prioritization and screening analyses. With additional data points identifying different products, separate analyses are conducted for each product, which reflect outcomes for consumers more accurately. In other words, the new data points improve prioritization analyses and consequently reduce false positive rates and the associated compliance burden for institutions.

4.2.5 Pricing Outcomes: Interest Rate, Rate Spread, Total Loan Costs or Total Points and Fees, Origination Charges, Discount Points, Lender Credits

When obtaining a mortgage loan or a LOC, a consumer is typically charged an interest rate for the term of a loan as well as an upfront cost that is associated with obtaining a loan. Interest rates and upfront costs vary because of many reasons, and together they reflect the price of a loan or an LOC. Prior to the 2015 rule, HMDA collected very limited information on the pricing outcomes of loans. The rate spread of APR compared to benchmark (Average Primary Offer Rate or APOR) was collected only if: 1) the rate spread was over a certain threshold; and 2) a loan was a high-cost mortgage under the definition of the Home Ownership and Equity Protection Act (HOEPA).[195]

The DFA and the 2015 rule substantively enriched the information related to pricing outcomes, adding several data points on the price of loans and applications, and expanding the scope of the

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[194] Urban Inst, *New Mortgage Data Show Business Borrowing Is Key to Affordable Multifamily Housing* (Dec. 3, 2019), https://www.urban.org/urban-wire/new-mortgage-data-show-business-borrowing-key-affordable-multifamily-housing

[195] *See* Regulation Z, 12 CFR 1026.32(a)

rate spread data point. It is important to note that mortgage pricing and costs of a loan include many components, some of which could be substitutes for others or may involve intertemporal tradeoffs between upfront costs and longer-term costs during the life of a loan. It is beyond the scope of this review to address the complex interrelationship of these pricing components. Instead, this section provides basic summary statistics based on the 2019 HMDA data in order to demonstrate the importance of these new pricing data points in furthering the HMDA purposes.

The 2015 rule added a new requirement that institutions report the *interest rate* applicable to the approved application, or to the covered loan at closing or account opening. An interest rate is reported as a percentage, to at least three decimal places. The 2019 Data Point article provides detailed analyses of how reported interest rates vary across loan types, loan purpose, occupancy, lien status, and loan terms.[196] More importantly, the median interest rate distributions varied by race and ethnicity, age, neighborhood income, and geography.[197] It is important to note that the median interest rates do not account for the differences in credit characteristics - such as credit scores, CLTVs, loan terms – that likely explain the differences across borrowers or loans.

The interest rate provides an important observation that enables data users, including government agencies, researchers, and consumer groups to analyze mortgage pricing in order to better serve HMDA's purposes. In particular, interest rate information brings a greater transparency to the market and facilitates enforcement of fair lending laws.

Rate Spread, defined as the difference between a covered loan's annual percentage rate (APR) and the APOR for a comparable type of mortgage as of the date the interest rate is set, was required to be reported for higher-priced, closed-end mortgages prior to the 2015 rule.[198] In other words, the rate spread was only reported for certain loans with rate spreads over given thresholds. Loans were classified as higher-priced if APR exceeded APOR for loans of a similar

[196] 2019 Data Point article at Table 7.1.1-7.1.5.

[197] Black and Hispanic White borrowers paid higher interest rates than non-Hispanic White and Asian borrowers. For instance, in 2019, the median interest rate for conventional conforming loans was the lowest for Asian borrowers (3.99 percent), followed by non-Hispanic White (4.125 percent), Hispanic White (4.25 percent) and Black borrowers (4.375 percent). The same pattern generally held true for other loan types. The median interest rate was higher for loans secured by properties located in low- or moderate-income tracts than those in middle- or high-income census tracts. Similarly, the median interest rate for borrowers living in metropolitan statistical areas was lower than that for borrowers in micropolitan statistical or rural areas (2019 Data Point article at Table 7.1.3).

[198] APOR is an estimate of APRs on loans being offered to high-quality prime borrowers based on contract interest rates and discount points. APOR is reported by Freddie Mac in its Primary Mortgage Market Survey and also by the Bureau. The Bureau publishes the tables of APORs by transaction type weekly here: https://ffiec.cfpb.gov/tools/rate-spread

type by at least 1.5 percentage points for first-lien loans or 3.5 percentage points for junior-lien loans.[199]

The 2015 rule modified the reporting requirement of rate spread. Starting in 2018, the required reporting of *Rate Spread* was no longer limited to the higher-priced, closed-end mortgages but was expanded to all covered loans and applications that were approved but not accepted and were subject to Regulation Z, except assumptions, purchased covered loans, and reverse mortgages.[200] This change provides a complete set of rate spreads for all applicable loans. The rate spread information for all loans, not just certain loans considered higher-priced, would provide a more complete understanding of the mortgage market and also improve loan analyses across various markets and communities. Furthermore, enforcement actions pursued by the U.S. Department of Justice indicated that price discrimination can occur even at levels that fall below the higher-priced thresholds. The Bureau stated its belief that requiring rate spreads for most loans and applications by all financial institutions would enhance the HMDA data by providing information that could improve loan analyses and hence enable a better understanding of the mortgage market when it adopted this change in the 2015 rule.

The 2019 Data Point article demonstrates how rate spreads vary across a number of dimensions. For instance, just like interest rates, rate spreads varied by loan types, loan purpose, occupancy, and lien status.[201] Consistent with the median interest rate trends by racial group, Black and Hispanic White borrowers had greater rate spreads than non-Hispanic White and Asian borrowers.[202] It is worth noting that, similar to the discussion above on median interest rates, the median rate spreads do not take into consideration the differences in the underlying credit characteristics of borrowers and loans.

The 2015 rule, as directed by the DFA, added total points and fees as information that institutions must report. These are captured in two data points: *Total Loan Costs* and *Total Points and Fees*. Each data point is applicable for different transactions, depending on whether the originated loans are subject to specific requirements in Regulation Z. *Total Loan Costs* applies to originated loans that are subject to the Truth in Lending Act (TILA)-Real Estate Settlement Procedures Act (RESPA) Integrated disclosure (TRID) requirements in

[199] Prior to October 2009, loans were classified as higher-priced if the spread between APR and the rate on a Treasury bond of comparable term exceeded 3 percentage points for the first-lien loans or 5 percentage points for junior-lien loans. The rate spread reported under HMDA used the difference between APR and the rate on a Treasury bond instead of APOR.

[200] The inclusion of mandatory reporting of open-end LOCs by the 2015 rule also added HELOCs to the rate spread reporting requirements.

[201] 2019 Data Point article at Table 7.2.1-7.2.2.

[202] The median rate spreads of conventional conforming loans for Black (0.576) and Hispanic White borrowers (0.541) were greater than those for Asian (0.173) or non-Hispanic White borrowers (0.352) (Table 7.2.3).

Regulation Z.[203] *Total Points and Fees* applies to originated loans that are not subject to those requirements but are covered by the Ability-to-Pay requirements in Regulation Z.

Total Loan Costs reported under HMDA are only "borrower paid" even though some of the closing costs may have been paid by sellers or other third parties. The total loan costs are the sum of origination charges that a lender charges, charges for services that borrowers cannot shop for (*e.g.*, appraisal fees or credit report fees), and charges for services that borrowers can shop for (*e.g.* settlement agent or title insurance fees, and upfront mortgage insurance premium). In other words, it includes charges by lenders as well as by the third-party service providers in connection with obtaining a loan to the extent that they are paid by consumers.

The 2019 Data Point article presents how the total loan costs varied by loan type, loan purpose, occupancy, and lien status. Overall, the median total loan costs in 2019 ranged from about $3,400 to a little over $7,100 across different loan types. The average was $4,809. Moreover, the standard deviation of total loan costs was $9,700, about twice the size of the average, indicating a wide spread of the total loan costs.[204]

In addition to the interest rates charged for the lifetime of loans, one-time costs that consumers pay are a very important component of borrowers' financial calculations and can often pose a hurdle for borrowers obtaining loans, especially for borrowers who are financially constrained. Prior to the 2015 rule, no information on the upfront costs of loans was required to be collected and reported in the HMDA data. Combined with interest rates, *Total Loan Costs* and *Total Points and Fees*, provide a more complete picture of the costs of loans, both ongoing and one-time.

Origination Charges is another data point that the 2015 rule required institutions to report for covered loans. In practice, if a loan is subject to the requirements to provide a TRID Closing Disclosure, a reporter must report "borrower-paid" origination charges, as disclosed in the TRID Closing Disclosure.[205] As with the *Total Loan Costs*, this data point only applies to closed-end consumer credit transactions secured by real property or co-ops.[206]

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[203] Open-end LOCs, reverse mortgages, loans made primarily for a business purpose, and loans secured by manufactured homes but not land do not require a TRID Closing Disclosure.

[204] 2019 Data Point article at Table 7.3.1-7.3.2.

[205] As with the total loan costs, origination charges reported under HMDA are "borrower-paid." To the extent that some parts of the origination charges are paid by sellers (in the home purchase transaction) or others, those would not be captured by the origination charges data point reported under HMDA.

[206] In other words, open-end lines of credit, reverse mortgages, and loans or lines of credit made primarily for a business purpose are not subject to TRID and hence do not report Origination Charges. Loans secured by manufactured homes and not the land do not report Origination Charges either, since they do not require a TRID Closing Disclosure.

Origination Charges are typically assessed by lenders to cover the cost of processing, underwriting, and executing loans but may also be tied to lenders' profit margins. Origination charges are part of total loan costs but unlike total loan costs they do not include charges by third-party service providers in connection with obtaining a loan. Nor do they include discount points paid by borrowers in exchange for lower interest rates. While the total loan costs reflect the overall costs borrowers face when obtaining a loan, not all of which are necessarily in a lender's control, origination charges reflect only the charges imposed by a lender and could be of interest for financial regulators when examining regulated entities. Adding the reporting requirement of origination charges help regulators determine whether financial institutions are serving the housing needs of communities and detect potential discrimination.

The 2019 Data Point article presents general patterns of origination charges. The median origination charges in 2019 ranged from about $790 to a little over $1,300 across different loan types, with the national median at about $1,225. The average was $1,852, while the standard deviation was at $3,036.[207] The origination charges also varied by loan purpose, occupancy, and lien status.[208] Moreover, the median origination charges for a particular loan type varied by race and ethnicity, neighborhood income, and geography.[209]

As with the total loan costs, the general patterns do not control for various factors that may account for the differences in origination charges including a loan size. Nevertheless, such patterns demonstrate the importance of having this new data point added to the HMDA reporting requirements. The data point serves the HMDA purposes by helping regulators determine whether financial institutions are serving the housing needs of communities and detect if potential discrimination exists.

The 2015 rule added *Discount Points* and *Lender Credits* as two new data points. *Discount Points* are the points paid to lenders to lower interest rates. Similar to *Total Loan Costs* and *Origination Charges*, *Discount Points* are applicable only to the originated loans subject to the TRID Closing Disclosure requirements and are reported in dollars based on the amount disclosed in the Closing Disclosure. In practice, when lenders price loans and charge discount points on a transaction in exchange for lower interest rates, discount points are most commonly

[207] 2019 Data Point article at Table 7.4.1.

[208] 2019 Data Point article at Table 7.4.2

[209] For site-built single-family conventional conforming loans, the median origination charge was the lowest for non-Hispanic White borrowers ($1,195) and the highest for Hispanic White borrowers ($1,445) in 2019 (2019 Data Point article at Table 7.4.3). The median origination charge was lower for borrowers in high-income tracts than that for borrowers in middle-income tracts, which in turn was lower than borrowers in low/moderate-income tracts but only by a small amount.

expressed in points (*e.g.*, as a percentage of a loan amount, typically stated as a number by multiplying it by 100).

In some transactions, borrowers receive rebates, sometimes known as "negative discount points," typically to cover some upfront costs of obtaining a loan. In exchange for a rebate, borrowers are charged a higher interest rate. Such a rebate is not captured in the Closing Disclosure and thus is not captured in the HMDA discount points field. Instead, rebates that are tied directly to the interest rates that borrowers receive are included as a part of *Lender Credits* on the Closing Disclosure and in the HMDA data.

Lender Credits are defined as the amount of lender credits as disclosed on the TRID Closing Disclosure and are reported in dollars. In addition to the rebates in exchange for higher interest rates, *Lender Credits* may also include other rebates given to borrowers for reasons other than a higher interest rate. Unlike the *Total Loan Costs* or *Origination Charges,* which are limited to only "borrower-paid", *Discount Points* and *Lender Credits* that are reported under HMDA are not limited to only "borrower-paid."

Of all site-built, single-family, closed-end forward mortgages not primarily for business or commercial purposes, nearly two thirds, or 66 percent had zero discount points.[210] In general, as the discount points increased the number of borrowers paying such discount points decreased.[211] Discount points paid by borrowers varied by race and ethnicity, neighborhood income, and geography.[212]

Discount Points and the rebates included in *Lender Credits* are important factors related to the final interest rates that borrowers pay. Adding these two data points may enhance the ability of data users to analyze mortgage pricing. It is important to note that the summary statistics on the incidence and magnitude of discount points and lender credits do not control for borrowers' credit characteristics and the characteristics of loans, which, if included may explain some of the observed differences. Such analysis is beyond the scope of this review.

[210] Tables 7.5.1 and 7.5.2 of the 2019 Data Point article divide the reported discount points by loan amounts and multiply by 100 to convert the dollar amounts to points. Loans with missing data on *Discount Points* are treated as having zero discount points.

[211] 2019 Data Point article at Table 7.5.1.

[212] Higher share of Asian borrowers (70 percent) and non-Hispanic White borrowers (68 percent) paid no discount points compared to Black borrowers (62 percent) and Hispanic White borrowers (63 percent). Similarly, borrowers in high-income census tracts (68 percent) were more likely to pay zero discount points than the those in middle-income (65 percent) or low- and moderate-income tracts (63 percent) (2019 Data Point article at Table 7.5.2). About 62 percent received no lender credits and about 2 percent received lender credits greater than or equal to one point but less than 1.5 points (Table 7.5.3). Asian borrowers were the least likely to receive no lender credits (53 percent) followed by Black (60 percent), non-Hispanic White (62 percent) and Hispanic White borrowers (63 percent) (2019 Data Point article at Table 7.5.4).

The data points on pricing outcomes reduce the false positive rates during the fair lending exam prioritization process. Prior to the 2015 rule, regulators were limited in their capabilities to conduct statistical analysis on potential disparities in pricing outcomes during risk screening processes, since no information on interest rates, discount points, lender credits or total loan costs was available. The only available pricing information was APR spread that was partially reported, only for loans with the APR spread over given thresholds. Therefore, regulators largely relied on other market information to identify high-risk lenders. The new pricing outcome data points provide additional explanatory variables that allow regulators to better conduct statistical analysis as part of a risk screening process, which resulted in reduction in false positive rates and more efficient allocation of exam resources for both regulators and financial institutions.

The new data points on pricing outcomes also greatly enhanced the HMDA data's usefulness in analyzing fair lending risk in pricing decisions and assessing if institutions are meeting the credit needs of local communities. The new data points shed light on loan pricing overall as well as pricing received by various demographic groups. Total closing costs, together with down payment requirement, often pose significant barriers to homeownership especially for low-income families. In-depth analyses on underlying factors that contribute to disparities in pricing outcomes inform policymakers in setting effective housing finance policies and assist regulators in fair lending enforcement.

4.2.6 Identifiers: LEI, ULI, NLMSR ID, Property Address

The 2015 rule requires institutions to report their *Legal Entity Identifiers (LEI)*. LEI is a 20-character, alpha-numeric code based on the ISO 17442 standard developed by the International Organization for Standardization (ISO). It connects to key reference information that enables clear and unique identification of legal entities participating in financial transactions. *LEI* replaced the respondent ID, which coupled with the agency code, was previously used to identify the HMDA reporters. Previously, each federal agency assigned respondent IDs to its supervised entities based on its own rules with no consistency across agencies and with little regard to corporate structure of the reporting institutions. The inclusion of an LEI improved the ability of HMDA data users to identify a financial institution reporting the HMDA data and its link to a corporate family. As an example, the Bureau produces and releases to the public an annual HMDA panel file of which LEI is one of the key inputs that helps identify the parent institutions and top-holder institutions of the reporters.[213]

The 2015 rule, as directed by the DFA, required institutions to report a *Universal Loan Identifier (ULI)* that can be used to identify and retrieve a covered loan or an application file.

[213] *See* Fed. Fin. Insts. Exam. Council, *Public Panel - Schema*, https://ffiec.cfpb.gov/documentation/2020/public-panel-schema/ (last visited Oct. 13, 2022).

ULI consists of up to 25 characters (including a two-character check digit) and follows LEI to identify a covered loan or an application. The ULI must be unique within a financial institution. Moreover, when a financial institution purchases loans, it must use the ULIs that were previously assigned or reported. Therefore, ULIs allow regulators to track a purchased loan to its source of origination as long as both transactions were reported under HMDA. Although ULIs are excluded from the public loan-level data, they enhance regulators' ability to trace and identify problematic transactions through the life cycle of a loan.

The 2015 rule strengthened the privacy requirement of ULI by prohibiting a financial institution from including the information that could be used to directly identify an applicant or a borrower in the identifier that it assigns. Prior to the 2015 rule, reporters assigned record identifiers as a part of HMDA filing based on various internal rules. Some reporters included information that could be used to directly identify applicants or borrowers in the loan IDs. Examples of such information include an applicant's or a borrower's name, date of birth, Social Security number, official government-issued driver's license or identification number, alien registration number, government passport number, or employer or taxpayer identification number. Such information is no longer allowed to be included as part of ULI.

The 2015 rule required institutions to collect and report a unique mortgage loan originator identifier (*NMLSR ID*) that is assigned by the Nationwide Mortgage Licensing System and Registry. NMLSR ID is a unique identifier that identifies a loan originator as set forth in section 1503 of the Secure and Fair Enforcement for Mortgage Licensing Act of 2008 (SAFE Act).[214] NMLSR ID is one of the data points explicitly mandated in the DFA. As DFA intended, including such a unique identifier for a mortgage loan originator helps regulatory agencies identify financial institutions and loan originators that are engaged in problematic practices. The information also helps regulators better understand the residential mortgage market.

The 2015 rule requires financial institutions to report the address of the property securing the covered loan or, in the case of an application, proposed to secure the covered loan (*Property Address*). This fulfills the DFA's requirement to add a parcel identifier into the HMDA reporting requirements. Specifically, DFA authorized the Bureau to include "the parcel number that corresponds to the real property pledged or proposed to be pledged as collateral" in the HMDA data collection.[215] However, no universal standard exists for identifying a property so that it can be linked to the relevant mortgage data. Parcel data are collected and maintained by individual local governments with limited State or Federal involvement. Local jurisdictions do not use a standard way to identify properties. In addition, local parcel data are not easily linked to the

[214] Dodd-Frank Act section 1094(3)(A)(iv), 12 U.S.C. 2803(b)(6)(F).

[215] *See* 12 U.S.C. 2803(b)(6)(H).

location of properties. Therefore, the 2015 rule adopted a property address in lieu of this DFA requirement, stating that an address is the least burdensome way to collect the information that uniquely identifies a property.

Financial institutions collect property addresses during the mortgage origination and application process if an address is available and stored with other application or loan data that is reported to HMDA. Most properties, including manufactured homes, have property addresses. In a small number of cases, a property address may not be available at the time of origination. Nonetheless, property addresses are an efficient and effective way to implement the authorization to collect a parcel number.

Collecting property addresses enriches the HMDA data and supports achieving the HMDA's purposes. With the data, Federal officials can track multiple liens on the same property. In addition, property addresses help policymakers understand the risks to borrowers and ease of credit access in particular communities in order to target programs that reach vulnerable consumers. Federal officials can also detect patterns of geographic discrimination not evident from the census tract data, which assists in identifying violations of fair lending laws. Moreover, as census tracts change over time, collecting property addresses facilitates a better analysis of geographic lending trends over time.

All of these data points are important in identifying potential discriminatory lending patterns and determining whether financial institutions are serving the housing needs of local communities. *LEI* and *ULI* help regulators identify possible discriminatory lending patterns across financial institutions and markets. *NMLSR ID* improves fair lending analysis by allowing regulators to link individuals to particular transactions and thus uncovering possible sources of disparities. *NMLSR ID* also helps examiners identify and further investigate loan originators who were associated with problematic lending practices. *Property Address* is especially important in studying potentially discriminatory lending patterns. By examining geographic lending patterns using *Property Address*, regulators can assess whether financial institutions are refusing or otherwise failing to serve certain neighborhoods with high concentration of racial minorities.

5. Benefits

This chapter evaluates the HMDA Rule's effectiveness in meeting the three statutory goals of HMDA. The three goals are: (1) to determine whether financial institutions are serving the housing needs of their local communities, (2) to assist public entities' distribution of funds to local communities to attract private investment, and (3) to assist in identifying possible discriminatory lending patterns and enforce antidiscrimination statutes. The chapter first presents the three statutory goals of HMDA and then describes how the changes implemented by the HMDA Rule further each of them. Lastly, it discusses other benefits of the HMDA data. The chapter provides a broad overview of uses of the HMDA data as well as the types of users. Because it is difficult to quantify the benefits, this chapter largely relies on qualitative review of publicly available information.

It is important to note that it generally takes a significant amount of time to incorporate and use newly available data for government program evaluations, policy making, and research purposes. Data users need time to learn the new data and how it can be used. Given that the new HMDA data collection began in 2018 and was followed by a number of changes, the Bureau expects that it would take at least several years to realize full benefits of the new HMDA data.

5.1 Determine whether financial institutions are serving the housing needs of their local communities

5.1.1 Federal Banking Agencies

The Community Reinvestment Act (CRA) of 1977 encourages certain insured depository institutions to help meet the credit needs of the local communities in which they are chartered, including low- and moderate-income (LMI) neighborhoods, consistent with the safe and sound operation of such institutions.[216] Federal banking agencies — such as the Federal Deposit Insurance Corporation (FDIC), the Board of Governors of the Federal Reserve System (FRB), and the Office of the Comptroller of the Currency (OCC) — periodically conduct examinations to assess if an institution has met CRA objectives. Then the agencies publicly release the resulting CRA performance ratings. Regulators use the CRA rating when reviewing applications for

[216] Off. of the Comptroller of the Currency, *Community Reinvestment Act (CRA)*, https://www.occ.treas.gov/topics/consumers-and-communities/cra/index-cra.html (last visited Oct. 13, 2022).

mergers, acquisitions, or branch expansions, all of which influence local communities' access to credit.

HMDA data are crucial for federal agencies conducting CRA exams.[217] The CRA exams assess an institution's performance in serving its entire service area, including a review of mortgages, small business lending, and bank branching patterns. In order to evaluate an institution's lending activity, examiners consider the number and dollar amount of loans made inside and outside of CRA assessment areas.[218] The information from HMDA on loan amounts, action taken, property location, single or multifamily status, and borrower income is used by federal banking agencies to evaluate mortgage lending.

Researchers use the HMDA data to examine the impact of CRA, which can guide policymakers. CRA motivates institutions to extend credit to lower-income and minority communities since institutions are concerned about the effect of a poor rating on possible denial or delay of mergers and acquisition applications and the availability of the EGRRCPA partial exemptions.[219] Critics of the CRA argue that such motivation led to a deterioration in mortgage underwriting standards that fueled the financial crisis in the 2000s (Agarwal et al., 2012).[220] At the same time, studies also show that CRA plays a key role in extending credit to lower-income and minority communities that generally lack access to credit (Bhutta, 2011; Ringo, 2017).[221] For example, Schwartz (1998) and Bostic and Robinson (2010) find that CRA agreements are

[217] State-level CRA exams include a retail lending test, a fair lending review that involves the use of HMDA data, and a review of community development activities. *See* Commonwealth of Massachusetts, *2019 Mortgage Lenders Examined for CRA Compliance*, https://www.mass.gov/info-details/2019-mortgage-lenders-examined-for-cra-compliance (last visited October 11, 2022).

[218] For small banks, examiners make a loan-to-deposit calculation based on the balance sheet dollar values at the institution level and review the number of loans made inside and outside of assessment areas. For large banks, examiners consider the number and dollar amount of loans in assessment area(s) and the number of loans inside and outside of assessment areas.

[219] As described in Chapter 2, the partial exemptions under the EGRRCPA for reporting certain HMDA data points are not available if an insured depository institution has received a rating of "needs to improve record of meeting community credit needs" during each of its two most recent examinations or a rating of "substantial noncompliance in meeting community credit needs" on its most recent examination under section 807(b)(2) of the CRA. 12 U.S.C. 2906(b)(2).

[220] Sumit Agarwal *et al.*, *Did the Community Reinvestment Act (CRA) Lead to Risky Lending?*, Nat'l Bureau of Econ. Research (2012), https://www.nber.org/papers/w18609.

[221] Neil Bhutta, *The Community Reinvestment Act and Mortgage Lending to Lower Income Borrowers and Neighborhoods*, 54(4) Journal of L. & Econ. 953-83 (2011), https://www.journals.uchicago.edu/doi/10.1086/661938; *See also* Daniel Ringo, *Mortgage Lending, Default and the Community Reinvestment Act* (2017), Mortgage Lending, Default and the Community Reinvestment Act by Daniel Ringo :: SSRN.14, 2017), https://ssrn.com/abstract=2585215.

positively associated with lending activity in lower-income and minority areas.[222] Ding and Nakamura (2017) and Ding et al. (2018) find that CRA effects on purchase originations and small business lending are more evident when neighborhoods lose CRA coverage relative to when they gain it.[223] These studies inform policymakers on the effectiveness of CRA at ensuring that financial institutions are meeting a community's credit needs and provide important evidence for future rulemaking.

The FRB's recent proposal to modernize CRA's regulatory and supervisory framework can potentially expand the number of HMDA data points used in future CRA exams. In October of 2020, the FRB issued the Advance Notice of Proposed Rulemaking on an approach to modernize regulations that implement the CRA.[224] The FRB proposed a new framework for evaluating banks' CRA performance with a Retail Test and a Community Development Test. The Retail Test would include two subtests: A Retail Lending Subtest and a Retail Services Subtest.[225] For the Retail Lending Subtest, the FRB proposed a metrics-based approach that is tailored based on a bank's major product lines and on the credit needs and opportunities within its assessment areas. The first part of the subtest is a retail lending screen that would measure a bank's retail lending relative to its capacity to lend in an assessment area to determine whether the bank is eligible for a presumption of "satisfactory" using the retail lending distribution metrics, or whether it should instead be more closely evaluated by an examiner.[226] The FRB proposed using HMDA and CRA reporter data to construct the market benchmark for mortgages which would minimize the data reporting requirements for small banks.

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[222] Alex Schwartz, *Bank Lending to Minority and Low-Income Households and Neighborhoods: Do Community Reinvestment Agreements Make a Difference?*, 20(3) Journal of Urban Affairs 269-301 (2008), https://doi.org/10.1111/j.1467-9906.1998.tb00423.x. *See also* Raphael W. Bostic & Breck L. Robinson, *Do CRA Agreements Influence Lending Patterns?*, 31(1) Real Estate Econ. 23-51 (2003), https://onlinelibrary.wiley.com/doi/epdf/10.1111/j.1080-8620.2003.00056.x.

[223] Lei Ding & Leonard Nakamura, Don't Know What You Got Till It's Gone: The Effects of the Community Reinvestment Act (CRA) on Mortgage Lending in the Philadelphia Market (Fed. Reserve Bank of Phila., Working Paper No. 17-15, at 1-31, 2017) https://www.philadelphiafed.org/-/media/frbp/assets/working-papers/2017/wp17-15.pdf; Lei Ding et al., Effects of the Community Reinvestment Act (CRA) on Small Business Lending (Fed. Reserve Bank of Phila., Working Paper No. 18-27, at 1-39, 2018), https://www.philadelphiafed.org/-/media/frbp/assets/community-development/discussion-papers/discussion-paper-effects-of-the-cra-on-small-business-lending.pdf.

[224] Community Reinvestment Act (Regulation BB); 85 FR 66410 (Oct. 19, 2020).

[225] The Community Development Test would also include two subtests: A Community Development Financing Subtest and a Community Development Services Subtest.

[226] The retail lending screen would measure the average annual dollar amount of a bank's originations and purchases of retail loans in the numerator—including home mortgage, small business, and small farm loans—relative to its deposits in the denominator. The retail lending screen would be measured against a market benchmark that reflects the level of retail lending by other banks in the same assessment area, indicating the aggregate dollar amount of lending a typical bank might be expected to engage in given its level of retail deposits.

5.1.2 Federal Housing Agencies and Government Sponsored Enterprises (GSEs)

The Federal Housing Finance Agency (FHFA) sets and evaluates housing goals related to low-income and underserved housing areas for the Federal National Mortgage Association (Fannie Mae) and the Federal Home Loan Mortgage Corporation (Freddie Mac) (collectively, government sponsored enterprises or GSEs) under the Federal Housing Enterprises Financial Safety and Soundness Act of 1992 (Safety and Soundness Act)[227]: One of the housing goals pertains to single-family and multifamily mortgages purchased annually by Fannie Mae and Freddie Mac. Another housing goal concerns GSEs' loan purchase and investment activities in underserved markets — manufactured housing, affordable housing preservation, and rural housing — under the Duty to Serve program.[228] Studies show that these housing goals have made homeownership more attainable for low-income and minority groups.[229]

The single-family housing goal defined under the Safety and Soundness Act includes separate categories for home purchase mortgages for low-income families[230], very-low-income families[231], and families that reside in low-income areas. FHFA has also established a subgoal within the low-income areas goal that is limited to families in low-income census tracts and moderate-income families in minority census tracts.[232] Performance on the single-family home purchase goals is measured as the percentage of the total home purchase mortgages purchased by a GSE each year that qualify for each goal or subgoal. There is also a separate goal for refinancing mortgages for low-income families, and performance on the refinancing goal is determined in a similar way.

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[227] The Safety and Soundness Act established the Office of Federal Housing Enterprise Oversight (OFHEO) within the United States Department of Housing and Urban Development (HUD). It also mandated that HUD set specific goals for GSEs with regard to low-income and underserved housing areas. For more information, see https://www.congress.gov/bill/102nd-congress/house-bill/6094.

[228] The Duty to Serve program requires Fannie Mae and Freddie Mac to facilitate a secondary market for mortgages on housing for very low-, low-, and moderate-income families. *See* Fed. Hous. Fin. Agency, *Overview*, https://www.fhfa.gov/PolicyProgramsResearch/Programs/Pages/Duty-to-Serve.aspx (last updated Aug. 24, 2022).

[229] Brent W. Ambrose *et al.*, *An Analysis of the Effects of the GSE Affordable Goals on Low-and Moderate-Income Families*, 1-28 (May 2002), https://www.huduser.gov/Publications/pdf/gsegoals.pdf. (Prepared for the U.S. Department of Housing and Urban Development and the Office of Policy Development and Research)

[230] Families with incomes at or below 80 percent of area median income (AMI).

[231] Families with incomes at or below 50 percent of AMI.

[232] 12 CFR 1282, In the "2022-2024 Single-Family and 2022 Multifamily Enterprise Housing Goals," it states that FHFA proposed dividing low-income area purchase subgoal into two subgoals: a minority census tracts subgoal and a low-income census tracts subgoal.

The performance of the GSEs on the single-family housing goals is evaluated using a two-part approach, comparing the goal-qualifying share of each GSE's mortgage purchases to two separate measures: a benchmark level and a market level. In order to meet a single-family housing goal, the percentage of mortgage purchases by a GSE that meet each goal must equal or exceed either the benchmark level or the market level for that year. The benchmark level is set prospectively by rulemaking based on various factors set forth in the Safety and Soundness Act. The market level is determined retrospectively for each year, based on the actual goal-qualifying share of the overall market as measured by the HMDA data for that year.[233]

HMDA data play an important role in setting both the prospective market forecasts (benchmark level) and the retrospective market measurement (market level).In selecting the specific benchmark level, FHFA develops econometric forecast models for each of the single-family housing goal segments that explicitly take some of the statutory factors into account. In order to determine if GSEs met the market level goals, the share of mortgage originations that qualified for the goal is calculated based on FHFA's analysis of the HMDA data.[234] Since FHFA uses the HMDA data to estimate the overall mortgage market of single-family owner-occupied conventional conforming mortgages that would be eligible for purchase by either GSE, the changes in the HMDA market coverage likely affected both the benchmark and market level.

The multifamily goal defined under the Safety and Soundness Act includes categories for mortgages on multifamily properties (properties with five or more units) with rental units affordable to low-income families and mortgages on multifamily properties with rental units affordable to very low-income families.[235] FHFA has also established a small multifamily low-income subgoal for properties with 5 to 50 units. The multifamily housing goals include all GSE multifamily mortgage purchases, regardless of the purpose of the loan. The multifamily goals evaluate the performance of the GSEs based on numeric targets, not percentages, for the

[233] The overall market that FHFA uses for setting the prospective benchmark level and for determining the retrospective market level consists of all single-family owner-occupied conventional conforming mortgages that would be eligible for purchase by either GSE. This includes loans purchased by the GSEs, comparable loans held in a lender's portfolio, and any loans that are part of a private label security (PLS), although very few such securities have been issued for conventional conforming mortgages since 2008.

[234] Fed. Hous. Fin. Agency, *Annual Housing Report: Jan 1, 2020-December 31, 2020* (Oct. 29, 2021), https://www.fhfa.gov/AboutUs/Reports/Pages/Annual-Housing-Report-2021-(covers-activities-12020---122020).aspx.

[235] As required by the Safety and Soundness Act, the FHFA determines affordability of multifamily units based on a unit's rent and utility expenses not exceeding 30 percent of the area median income standard for low- and very low-income families.

number of affordable units in properties backed by mortgages purchased by a GSE.[236] Currently, HMDA data are not used for evaluating the GSE's multifamily performance, but the new HMDA data points on total number of units and affordable units can potentially be useful in the future.

FHFA also evaluates the GSEs' plan to serve three specified underserved markets under the Duty to Serve program that Congress established in the Safety and Soundness Act. The three underserved markets are manufactured housing, affordable housing, and rural housing markets. The main purpose of the Duty to Serve program is to increase the liquidity of mortgage investments and improve the distribution of investment capital available for mortgage financing for very low-, low-, and moderate-income families in the underserved markets. Each GSE prepares an Underserved Markets Plan (UMP) describing the specific activities and objectives it will undertake to fulfill its Duty to Serve obligations in each underserved market over a three-year period. FHFA publishes information on how each activity is evaluated and then produces a rating for each GSE's compliance and impact on each underserved market.

HMDA data play an integral role in FHFA's annual evaluation of the GSEs' plan. As the first step of the three-step evaluation process, FHFA calculates the degree to which a GSE has accomplished targets under each of the objectives identified in each underserved market. FHFA conducts quantitative evaluation of a GSE's performance of each loan purchase and investment objective. In the 2022-2024 UMP, one of the objectives outlined by the GSEs is related to manufactured homes titled as real property. When providing an overview of the manufactured housing market in the UMP, Freddie Mac used HMDA data to estimate the market size of home-only loans, also known as chattel loan financing.[237] Both GSEs proposed to increase the purchase of single-family loans secured by manufactured homes titled as real property and to maintain manufactured housing industry engagement through outreach and publication of research and resources. On the other hand, Fannie Mae used HMDA data to show that denial rates are higher

[236] FHFA has not established a retrospective market level measure for the multifamily goals, due in part to a lack of comprehensive data on the multifamily market. As a result, FHFA currently measures GSE multifamily goals performance against the benchmark levels only.

[237] Freddie Mac, *Duty to Serve Underserved Markets Plan for 2022-2024*, https://www.fhfa.gov/PolicyProgramsResearch/Programs/Documents/FRE-2022-24-proposed-UMP.pdf (last visited Oct 12, 2022).

for mortgage applicants in rural and high-needs rural areas in the UMP.[238] The new HMDA data points are widely used in research conducted by GSEs and help GSEs meet their objectives.[239]

The U.S. Department of Housing and Urban Development's (HUD) releases an annual report that uses HMDA data to benchmark the share of FHA loans among minority borrowers.[240] For example, the 2019 report showed that FHA-insured loans made up approximately 19.8 percent of all home purchase loans but were used for 40.6 percent of home purchases by African American households, 37.6 percent by Hispanic, 28.9 percent by American Indians, and 8.7 percent by Asian and Hawaiian/Pacific Islanders households.[241] The 2021 report used the 2020 HMDA data to highlight the importance of FHA loans in increasing minority borrowers' access to credit. The report illustrated higher shares of Black and Hispanic borrowers using FHA loans compared to other types of loans.[242]

5.1.3 Advocates and non-profits

The National Community Reinvestment Coalition (NCRC), on behalf of 54 community-based organizations, listed several benefits of new and revised data points in response to the November 2021 RFI.[243] According to the NCRC, the loan terms and conditions data points — such as DTI, LTV, prepayment penalty, adjustable rates, and total points and fees — help regulatory agencies, community groups, and other stakeholders detect increases in abusive lending. NCRC stated that the pre-2018 HMDA data was outdated and not informative in assessing the housing needs because the data did not reflect complex loan terms and conditions that were implemented during the late 1990s and 2000s. NCRC stated that the new data points could have been used to detect increases in subprime and other non-traditional loans prior to

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238 Fannie Mae, *Duty to Serve Underserved Markets Plan 2022-2024* (May 2021) https://www.fhfa.gov/PolicyProgramsResearch/Programs/Documents/FNM-2022-24-proposed-UMP.pdf.

239 Freddie Mac, *Preview of New Research: Where are the Opportunities to Expand Manufactured Housing?,* https://sf.freddiemac.com/content/_assets/resources/pdf/fact-sheet/mh-zoning-research-summary.pdf (last visited Oct 12, 2022). *See also Manufactured Housing*, https://sf.freddiemac.com/working-with-us/affordable-lending/duty-to-serve/manufactured-housing/ (last visited Oct 12, 2022).

240 U.S. Dep't of Hous. & Urb. Dev., Annual Report to Congress Regarding the Financial Status of the Federal Housing Administration (FHA) Mutual Mortgage Insurance Fund, https://www.hud.gov/fhammifrpt (last visited Oct. 12, 2022).

241 U.S. Dep't of Hous. & Urb. Dev., *Annual Report to Congress Regarding the Financial Status of the FHA Mutual Mortgage Insurance Fund* (2019), https://archives.hud.gov/news/2019/2019FHAAnnualReportMMIFund.pdf.

242 U.S. Dep't of Hous. & Urb. Dev., *Annual Report to Congress Regarding the Financial Status of the Federal Housing Administration Mutual Mortgage Insurance Fund* (2021), https://www.hud.gov/sites/dfiles/Housing/documents/2021FHAAnnualReportMMIFund.pdf.

243 Response to RFI (Jan. 2021), https://www.regulations.gov/comment/CFPB-2021-0018-0027.

the Great Recession and therefore are critical in monitoring and preventing abuses in the marketplace.

According to NCRC, the new and revised demographic data points allow better monitoring of abusive lending in underserved communities. More specifically, NCRC stated the following list of benefits: Detailed race and ethnicity categories combined with enhanced loan terms and conditions data points help stakeholders protect vulnerable populations against predatory lending. Detailed race and ethnicity categories reveal the extent of abusive lending targeted towards subgroups within Asian and Hispanic communities. Furthermore, age and reverse mortgage data points allow for better monitoring of the housing needs for older adults. Lastly, the data points on multifamily and manufactured housing allow better evaluation of housing needs for renters.

5.2 Assist public entities' distribution of funds to local communities to attract private investment

5.2.1 Federal, State and Local Government

HUD awards discretionary funding through over 20 grant programs that support HUD initiatives, including Affordable Housing Development and Preservation, Community and Economic Development, and Fair Housing. HUD analyzes HMDA data to help inform grant decisions. For example, the HUD Neighborhood Stabilization Program (NSP) was an emergency program that provided funds to help address foreclosed and vacant properties.[244] Part of the allocation process relied on HMDA data to identify areas with the highest foreclosure rates. HUD used HMDA data for these analyses because it is one of the few public data sources that contains data on high-cost loans across the entire U.S.

[244] U.S. Dep't of Hous. & Urb. Dev., *Neighborhood Stabilization Program Data*, https://www.huduser.gov/portal/datasets/NSP.html (last visited Oct. 12, 2022).

5.3 Assist in identifying possible discriminatory lending patterns and enforcing antidiscrimination statutes

5.3.1 Federal Regulators and Enforcement Agencies

An analysis of HMDA data is an integral part of the Federal Financial Institutions Examination Council (FFIEC)[245], Interagency Fair Lending Examination Procedures (the Procedures) that are the basis for supervisory work focused on detecting fair lending risk and discrimination in mortgage lending. The Procedures state, “indicators of potential discriminatory Redlining such as: significant differences, as revealed in HMDA data, in the number of applications received, withdrawn, approved not accepted, and closed for incompleteness or loans originated in those areas in the institution’s market that have relatively high concentrations of minority group residents compared with areas with relatively low concentrations of minority residents.”[246]

Prudential regulators (FRB, FDIC, OCC, NCUA), CFPB, HUD and DOJ analyze HMDA data during risk screening and exam prioritization processes to efficiently allocate resources and minimize burden on industry.[247] HMDA’s expanded transactional coverage improved the risk screening used to identify institutions at higher risk of fair lending violation by improving the accuracy of analysis and thus reducing the false positive rate at which lenders were mistakenly identified as high risk. For example, one of the main concerns in underwriting analysis is that omitting factors that directly affect underwriting decision leads to an over-estimation of the size of disparities.[248] In other words, when factors such as applicant’s credit scores and DTI are omitted from the model, it may falsely identify some institutions as high risk. The new data

[245] Collectively, the Board of Governors of the Federal Reserve System (FRB), the Federal Deposit Insurance Corporation (FDIC), the National Credit Union Administration (NCUA), the Office of the Comptroller of the Currency (OCC), and the Consumer Financial Protection Bureau (Bureau) comprise the Federal Financial Institutions Examination Council (FFIEC). The State Liaison Committee was added to FFIEC in 2006 as a voting member. *See* http://www.ffiec.gov.

[246] Off. of the Comptroller of the Currency, *Interagency Fair Lending Examination Procedures* at 10 (Aug. 2009), www.ffiec.gov/pdf/fairlend.pdf.

[247] *See, e.g.*, Fed. Deposit Ins. Corp., *Supervisory Insights: Winter 2007*, https://www.fdic.gov/regulations/examinations/supervisory/insights/siwin07/index.html (2007); Bureau of Consumer Fin. Prot., *Fair Lending Report of the Bureau of Consumer Financial Protection* (Dec. 2018), https://www.federalregister.gov/documents/2019/02/08/2019-01568/fair-lending-report-of-the-bureau-of-consumer-financial-protection-december-2018

[248] Alicia H. Munnell *et al.*, *Mortgage Lending in Boston: Interpreting HMDA Data*, The Am. Econ. Review at 25-53 (1996), https://www.jstor.org/stable/2118254#metadata_info_tab_contents.

points improve the analysis by accounting for factors that impact underwriting decisions and consequently reduce false positives and the associated compliance burden.

HMDA data are crucial in conducting supervisory exams and enforcement investigations. The Bureau's fair lending supervision program assesses compliance with the Equal Credit Opportunity Act (ECOA) and its implementing regulation, Regulation B, as well as HMDA and its implementing regulation, Regulation C, at institutions subject to the Bureau's supervisory authority. The Bureau's mortgage origination fair lending exams focus on: (1) redlining and whether lenders intentionally discouraged prospective applicants living or seeking credit in minority neighborhoods from applying for credit; (2) assessing whether there is discrimination in underwriting and pricing processes, including steering; and (3) HMDA data integrity and validation (which supports ECOA exams) as well as HMDA diagnostic work (monitoring and assessing new rule compliance).[249]

The first step of the fair lending exam process begins with requesting relevant information and data from an institution. The requirement to report new HMDA data points greatly increased the accuracy of supervisory data since the additional data points are now subject to supervisory (Regulation C) exams for accurate filing under HMDA. The new data points also reduced the burden on institutions by lessening time and resources spent searching and gathering relevant data requested by the Bureau since the Bureau can now obtain most of the necessary data points directly from the HMDA data.

The second step involves merging HMDA data with an institution's supervisory data to conduct discrimination analysis that uncovers focal points for the fair lending exams. The statistical analysis involves estimating disparities in underwriting or pricing outcomes by race, gender and age as well as examining evidence of redlining. A common challenge in identifying discriminatory lending patterns is lack of credit characteristics used in underwriting and pricing models. Many of the new HMDA data points along with information submitted by an institution improve the quality of statistical analyses conducted during this step.

Lastly, the Bureau can initiate supervisory events or enforcement actions based on findings from statistical analysis and examiners' file reviews. In this regard, the Bureau is able to engage in research, conduct investigations, file administrative complaints, hold hearings, and adjudicate claims through the Bureau's administrative enforcement process. The Bureau also has

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[249] Bureau of Consumer Fin. Prot., *Fair Lending Report of the Bureau of Consumer Financial Protection* (2020), https://files.consumerfinance.gov/f/documents/cfpb_2020-fair-lending_report_2021-04.pdf.

independent litigating authority and can file cases in federal court alleging violations of fair lending laws under the Bureau's jurisdiction.

Like other federal bank regulators, the Bureau is required to refer matters to the DOJ when it has reason to believe that a creditor has engaged in a pattern or practice of lending discrimination. In 2019, the Bureau referred three matters to the DOJ involving discrimination pursuant to section 706(g) of ECOA, two of which involved mortgage origination.[250] When an enforcement action is resolved through a public enforcement order, the Bureau (together with the DOJ, when relevant) takes steps to ensure that the respondent or defendant complies with the requirements of the order. Depending on the specific requirements of individual public enforcement orders, the Bureau may take steps to ensure that borrowers who are eligible for compensation receive remuneration and that the defendant has complied with the injunctive provisions of the order, including implementing a comprehensive fair lending compliance management system. The new HMDA data are often used to build evidence for legal cases and estimate appropriate remuneration amounts for harmed consumers.

5.4 Other benefits

Researchers have used the new HMDA data to investigate topics that can broadly be categorized into four strands.[251] The first strand of literature is studies showing lending patterns. This body of literature aims to illustrate observational trends rather than establish any causal inference. The second strand of literature studies racial discrimination in mortgage markets. These studies further extend Munnell et al. (1996)[252] and examine the existence of racial discrimination in various contexts. The third strand of literature explores the effects of housing or mortgage market programs and policies. Lastly, there are a number of studies on housing and mortgage markets that do not fall into the aforementioned bodies of work.

[250] In 2020, the Bureau referred four matters to DOJ about discrimination pursuant to section 706(g) of ECOA.

[251] The list of studies presented here is by no means an exhaustive list but provides a glimpse of the wide variety of topics that are studied using the new HMDA data.

[252] Alicia H. Munnell *et. al.*, *Mortgage lending in Boston: Interpreting HMDA data*, The Am. Econ. Review at 25-53 (1996), https://www.bostonfed.org/publications/research-department-working-paper/1992/mortgage-lending-in-boston-interpreting-hmda-data.aspx.

The new HMDA data have shown that distinct lending patterns exist by loan products (McCargo et al., 2020; Russell et al., 2021) [253], geography (Khater et al., 2021)[254], and demographic characteristics (Agnani & Richardson; Richardson & Kali, 2020a,b; So & Richardson, 2019; Storey, 2019)[255]. McCargo et al. (2020)[256] used the 2019 HMDA data to examine small-dollar mortgage lending patterns in Louisville, Kentucky and its surrounding metropolitan statistical areas. Russell et al. (2021)[257] used the new and revised data points to explore the differences across mortgage loans for site-built homes, those for manufactured homes, and home-only loans. One of their key findings was that over 60 percent of manufactured housing borrowers directly owned the land where their home was located, implying that they may have been eligible for manufactured housing mortgages, and yet 17 percent of them took out home-only loans. Using the HMDA data from 2010 to 2019, Khater et al. (2021)[258] showed that an increasing number of people have moved from urban areas to suburbs and rural towns even before the pandemic, attributing this to people's preference for larger homes.

The new and revised data points on demographic characteristics allowed some researchers to explore mortgage patterns by race, age, and sexual orientation. Richardson and Kali (2020a)[259] found that nearly one third of mortgages in 2018 were taken out by older adults who were mostly

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[253] Alanna McCargo *et al.*, *The MicroMortgage Marketplace Demonstration Project: Building a Framework for Viable Small-Dollar Mortgage Lending*, Urban Institute, https://www.urban.org/sites/default/files/publication/103381/the-micromortgage-marketplace-demonstration-project_0_0.pdf; *See also* Jessica Russell *et al.*, *Manufactured Housing Finance: New Insights from the Home Mortgage Disclosure Act Data*, Bureau of Consumer Fin. Prot., Office of Research and Mortgage Markets (May 2021) https://files.consumerfinance.gov/f/documents/cfpb_manufactured-housing-finance-new-insights-hmda_report_2021-05.pdf.

[254] Sam Khater *et al.*, *Rural Home Purchases Outpaced Urban Purchases Through the 2010s*, Freddie Mac, Economic & Housing Research Note (June 2021), https://www.freddiemac.com/fmac-resources/research/pdf/202105-note-rural_home_purchases.pdf.

[255] Seema Agnani & Jason Richardson, *Mortgage Lending in the Asian American and Pacific Islander Community*, National Community Reinvestment Coalition (Aug. 2020), https://ncrc.org/mortgage-lending-in-the-asian-american-and-pacific-islander-community; *See* Jason Richardson & Karen Shakira Kali, *Mortgages And Older Adults After COVID-19*, National Community Reinvestment Coalition (May 8, 202), https://ncrc.org/mortgages-and-older-adults-after-covid-19/; *See* Jason Richardson & Karen Shakira Kali, *Same-Sex Couples and Mortgage Lending*, National Community Reinvestment Coalition (June 22, 202), *https://ncrc.org/same-sex-couples-and-mortgage-lending/; See* Agatha So & Jason Richardson, *Hispanic Mortgage Lending: 2019 HMDA Analysis*, National Community Reinvestment Coalition (Nov. 17, 202), https://ncrc.org/hispanic-mortgage-lending-2019-analysis/; *See also* Sam Storey, *The Young Adult Homeownership Gap: Evidence from Fifth District HMDA Data*, Regional Matters, Fed. Reserve. Bank of Richmond (Nov. 7, 2019), https://www.richmondfed.org/research/regional_economy/regional_matters/2019/rm_11_07_2019_homeownership.

[256] Supra note 38.

[257] Id.

[258] Supra note 39.

[259] Supra note 40.

refinancing their loans. Storey (2019)[260] noted the lower rates of home purchase among younger adults (aged under 35) relative to older adults (aged 35 and older) and argued that young adults in rural communities likely face unique borrowing burdens that may be limiting homeownership levels. Richardson and Kali (2020b)[261] showed that same-sex couples were more likely to be minority, lower-income and younger than their different-sex counterparts. Aronowitz et al. (2020)[262] illustrated that Black borrowers pay higher rates than White borrowers. So and Richardson (2019)[263] explored distinct lending patterns within the Hispanic community while Agnani and Richardson (2020)[264] examined those within the Asian American and Pacific Islander community.

Unlike the first strand of literature where the main focus was to illustrate observational differences across demographic groups, the second strand of literature focused on understanding the reasons behind the observed disparities in outcomes. Zhang and Willen (2021)[265] argued that simply comparing interest rates across race is misleading since borrowers choose both interest rates and the upfront fees. The authors examined whether lenders discriminate against Black borrowers by offering them a "distribution of menus" – or set of price options – that is worse than the ones offered to observationally similar White borrowers. They found that pricing differentials by race exist especially among more creditworthy conforming borrowers. Park (2021a)[266] showed that female, minority, and same-sex applicants are more likely to be denied even after accounting for their predicted default risk. Lastly, Bar and Khonglah (2022)[267] showed that the size of racial disparities in denial rates varies greatly across lenders even after controlling for credit characteristics.

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260 *Id.*

261 *Id.*

262 Michelle Aronowitz et al., *The Unequal Costs of Black Homeownership*. Massachusetts Institute of Technology, Golub Center for Finance and Policy (Oct. 1, 2020), http://gcfp.mit.edu/wp-content/uploads/2020/10/Mortgage-Cost-for-Black-Homeowners-10.1.pdf.

263 Supra note 40.

264 *Id.* Authors find that Asian Indian and Chinese borrowers rarely use non-conventional loans for home purchases while Filipino and Hawaiian Pacific Islander borrowers were much more likely to do so.

265 David Hao Zhang & Paul Willen, *Do Lenders Still Discriminate? A Robust Approach for Assessing Differences in Menus*, Nat'l Bureau of Econ. Research. (Working Paper No. 29142, 2021) https://www.nber.org/papers/w29142.

266 Kevin A. Park, *Measuring Risk and Access to Mortgage Credit with New Disclosure Data*, 26(4) Journal of Structured Fin. 53-72 (2021), https://jsf.pm-research.com/content/26/4/53.

267 Michael Bar & Nishanlang Khonglah, *Racial Differences in Access to Mortgage Lending: Comparison Across Major Institutions*, 2(8) SN Bus. & Econ. 1-26 (2022), https://link.springer.com/article/10.1007/s43546-022-00276-5.

Some researchers explored whether algorithmic decision making inhibits discrimination in the mortgage market by reducing face-to-face interactions. Bartlett et al. (2022)[268] concluded that the rate differences for minority borrowers are largely the same across financial technology, or "fintech", and non-fintech lenders, implying that algorithms do not reduce racial disparities in rates. Moreover, the authors found that disparities are especially large in high-minority-share areas. Bhutta et al. (2021)[269] demonstrated that the racial disparities in denial rates can mostly be explained by government created algorithmic underwriting system outcomes (AUS recommendations) and lender-imposed overlays.

A number of researchers explored disparate outcomes across demographic groups among various loan products. Lindsey-Taliefero (2021)[270] found that the denial odds for Black and Hispanic applicants are higher than that for non-Hispanic White applicants for reverse mortgages. On the other hand, the denials odds are lower for women and applicants aged 74 years and older compared to their counterparts. Park (2022)[271] merged the non-endorsed FHA loans with the HMDA data to examine the likelihood of denials when loans do not originate as FHA or are not "endorsed". The author found that Hispanic, Black, and same-gender applicants whose loans are not endorsed are more likely to be denied.

The third strand of literature uses the HMDA data to examine the impact of various housing and mortgage programs and policies. Kaul et al. (2020)[272] used the 2019 HMDA data to estimate the impact of the qualified mortgage (QM) rule[273] changes and argued for a further increase in safe

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[268] Robert Bartlett *et al.*, *Consumer-Lending Discrimination in the FinTech era*, 143(1) Journal of Fin. Econ. 30-56 (2022), https://www.sciencedirect.com/science/article/abs/pii/S0304405X21002403.

[269] Neil Bhutta et al., How Much Does Racial Bias Affect Mortgage Lending? Evidence from Human and Algorithmic Credit Decisions, Evidence from Human and Algorithmic Credit Decisions, SSRN (2021), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3887663.

[270] Debby Lindsey-Taliefero & Lynne Kelly, *Reverse Mortgage Lending Disparities and the Economically Vulnerable*, 27(3) Int'l Advances in Econ. Research 159-169 (2021), https://link.springer.com/article/10.1007/s11294-021-09831-6.

[271] Kevin A. Park, *A Comparison of Mortgage Denial and Default Rates by Race, Ethnicity, and Gender,* Fannie Mae (Feb. 7, 2022), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4030908.

[272] Karan Kaul *et al.*, *The CFPB's Proposed QM Rule Will Responsibly Ease Credit Availability*, *Data Show That it Can Go Further*, Urban Institute (Sept. 2020), https://www.urban.org/sites/default/files/publication/102818/the-cfpbs-proposed-qm-rule-will-responsibly-ease-credit-availability-data-show-that-it-can-go-further_0.pdf.

[273] On June 22, 2020, the Bureau issued two notices of proposed rulemaking (NPRMs) inviting the public to comment on potential amendments to the Bureau's Ability to Repay/Qualified Mortgage Rule (ATR-QM Rule). With certain exceptions, the ATR-QM Rule requires creditors to make a reasonable, good faith determination of a consumer's ability to repay a residential mortgage loan and provides certain protections from liability for qualified mortgages, or QMs. The ATR-QM Rule also established different categories of QMs. *See* Bureau of Consumer Fin. Prot., *Summary of Proposed Rule-Makings: June 2020 Proposals to Amend the ATR-QM Rule* (June 2020), https://files.consumerfinance.gov/f/documents/cfpb_atr-qm_summary-of-proposals_2020-06.pdf.

harbor and QM price caps. Park and Quercia (2020)[274] investigated the effect of the Community Reinvestment Act (CRA) on redlining. The authors found that CRA encouraged local banks and thrifts to lend to lower-income borrowers but found no evidence of greater market shares by CRA-regulated lenders in lower income neighborhoods. In addition to these studies, some researchers have used the pre-2018 HMDA data for program evaluation purposes that would have benefited from the new and revised data points available in the new HMDA data.[275]

Finally, a growing number of researchers are using the new HMDA data to study a wide range of topics that do not neatly fit into the three strands of literature discussed above. Avenancio-León and Howard (2021)[276] found that Black and Hispanic residents face 10 percent to 13 percent higher tax burden for the same bundle of public services than White residents and such gaps cannot be explained by racial differences in transaction prices or the differences in housing stock features. Van der Plaat (2021)[277] tested two hypotheses: (1) that loan sales allow lenders to lend at greater geographical distance; and (2) that loan sales allow remote lenders to offer more favorable loan rates. In particular, the author concluded that loan sales increase the lending distance by allowing remote lenders to reduce the rates. Frame et al. (2022)[278] demonstrated that minority borrowers benefit from working with minority loan officers and argued that under-representation of minority loan officers adversely affects minority borrowers' access to credit. Last, Gill et al. (2020)[279] and Ghoba and Colaner (2021)[280] used the new HMDA data to test machine learning models.

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[274] Kevin A. Park & Roberto G. Quercia, W*ho Lends Beyond the Red Line? The Community Reinvestment Act and the Legacy of Redlining*, 30(1) Housing Policy Debate 4-26 (2020), https://www.tandfonline.com/doi/full/10.1080/10511482.2019.1665839.

[275] For example, Park (2021b) used a dramatic decline in the maximum loan amount eligible for FHA mortgage insurance in the Salt Lake City metropolitan statistical area in 2013 and 2014 to examine how borrowing constraints affect borrowers' housing choices. Since FHA loan limits are set in tens of dollars, the exact dollar amount of loans would have provided more precise analysis than what the author had to use which was loan amounts reported in thousands of dollars.

[276] Carlos F. Avenancio-León & Troup Howard, *The Assessment Gap: Racial Inequalities in Property Taxation*, 137(3) The Quarterly Journal of Econ. 1383-1434 (2022), https://academic.oup.com/qje/article/137/3/1383/6522186.

[277] Mark Van der Plaat, *Loan Sales and the Tyranny of Distance in U.S. Residential Mortgage Lending* (Munich Personal RePEc Archive Paper No. 109218) (2021), *https://mpra.ub.uni-muenchen.de/109218/*.

[278] W. Scott Frame, *The Impact of Minority Representation at Mortgage Lenders* (Nat't Bureau of Econ. Research, Working Paper No. w30125, 2022), https://www.nber.org/papers/w30125.

[279] Navdeep Gill et al., A Responsible Machine Learning Workflow with Focus on Interpretable Models, Post-hoc Explanation, and Discrimination Testing, Information, 11(137), 1-32 (2020), https://www.mdpi.com/2078-2489/11/3/137.

[280] Sama Ghoba & Nathan Colaner, *Counterfactual Fairness in Mortgage Lending via Matching and Randomization*, 35th Conference on Neural Information Processing Systems, Sydney, Australia (Dec. 2021), https://slideslive.com/38972006/counterfactual-fairness-in-mortgage-lending-via-matching-and-randomization?ref=recommended.

6. The Rule's Effects on Compliance Costs

6.1 Introduction

This chapter reviews the HMDA Rule's effects on financial institutions' compliance costs incurred from HMDA reporting. The chapter begins by highlighting key findings and providing background on how the Bureau estimates compliance costs for HMDA reporting. It then presents the Bureau's compliance cost estimates for representative financial institutions and compares them to estimates submitted to the Bureau from industry participants. The next section presents background and estimates of market-level compliance costs. The final section discusses one-time costs incurred in response to the requirements of the Rule.

As described in Chapter 1: Introduction, given the available data, it is difficult to establish clear effects of the Rule. This chapter will show how the Bureau updated its compliance cost estimation methodology because of updates to mortgage data industry standards, operational improvements in HMDA reporting, and changes to compliance officer wages all taking place by 2018—when the HMDA Rule took effect. Changes to the HMDA Rule between 2015 and 2018 were also incorporated in the Bureau's analysis, such as changes in reporting thresholds for open-end reporters and the partial exemption granted to specific financial institutions from reporting all HMDA data points.

This chapter reports several estimates of increases in HMDA compliance costs incurred by financial institutions, as well as market-level estimates of HMDA compliance cost increases. The Bureau's estimates of HMDA compliance cost increases are compared to counterfactual baseline cost estimates of HMDA reporting in 2018 if the HMDA Rule did not take effect. After accounting for operational improvements in HMDA reporting, the Bureau's estimates in this review of HMDA compliance cost increases due to the rule are similar in magnitude to the cost estimates the Bureau generated in the analysis for the 2015 rule. Because of the challenges in creating these estimates, they should be interpreted only as the Bureau's best estimates for the financial institutions represented in the Bureau's data and not as representative of all financial institutions affected by the Rule.

Key findings in this chapter include:

- Industry data standards and HMDA data definitions have become more aligned since the HMDA Rule was issued, potentially reducing the burden of HMDA compliance.

- For existing closed-end reporters, the estimated increase in ongoing compliance costs for HMDA reporting per loan application (in 2018 dollars) was approximately $42 for a representative low-complexity financial institution with a loan/application register (LAR) size of 50 records, $11 for a representative moderate-complexity financial institution with a LAR size of 1,000 records, and $0.47 for a representative high-complexity financial institution with a LAR size of 50,000 records.

- For open-end reporters, who are almost all newly reporting open-end lines of credit under the HMDA Rule (including financial institutions who previously reported HMDA data for their closed-end loan applications), the estimated increase in ongoing HMDA compliance costs per loan application was approximately $50 for a representative low-complexity financial institution with a LAR size of 500 records, $45 for a representative moderate-complexity financial institution with a LAR size of 1,000 records, and $10 for a representative high-complexity financial institution with a LAR size of 30,000 records.

- For existing HMDA reporters who qualify for a partial exemption from reporting certain HMDA data points, the estimated increase in ongoing HMDA compliance costs per loan application was approximately $12 for a representative low-complexity financial institution with a LAR size of 50 records and approximately $7 for a representative moderate-complexity financial institution with a LAR size of 500 records.

- Assuming that all variable costs of HMDA reporting — a component of total ongoing compliance costs — were passed through to consumers, the estimated increase in variable costs of HMDA reporting for closed-end loans was approximately $26 per loan application for a representative low-complexity financial institution with a LAR size of 50 records, $0.43 per loan application for a representative moderate-complexity financial institution with a LAR size of 1,000 records, and $0.02 per loan application for a representative high-complexity financial institution with a LAR size of 50,000 records. Averaging variable costs across all HMDA reporters and closed-end loan applications results in an estimated mean variable cost increase of $1.96 per application in 2018.

- Industry estimates of HMDA compliance costs per loan application reported to the Bureau, in response to the 2019 HMDA Proposal and the limited industry outreach for this voluntary review, were similar to the Bureau's estimates from the 2015 HMDA Final Rule.

- The estimated total market-level impact of the HMDA Rule on ongoing compliance costs was approximately $67,300,000 in 2018, with approximately 45 percent of these costs due to new reporting of open-end lines of credit. This estimate is within the range of the Bureau's aggregate cost estimates from the 2015 HMDA Final Rule.

- The Bureau received limited quantitative evidence from financial institutions on one-time costs for this review; their cost statements were within the range of the Bureau's one-time cost estimates presented in the 2015 HMDA Final Rule.

6.2 Background on compliance cost estimates

This section reviews the methodology used to generate compliance cost estimates for representative financial institutions in the HMDA Rule. This section summarizes the cost estimation methodology used in the 2015 HMDA Final Rule to generate cost estimates for financial institutions reporting closed-end mortgages and open-end lines of credit, as well as the potential pass-through of HMDA compliance costs to consumers. Changes to the cost estimation methodology for this review will be discussed below in section 6.3, and the methodology used to create aggregate cost estimates in the HMDA Rule will be discussed in section 6.4.

6.2.1 HMDA reporting and compliance for closed-end mortgages

For the 2015 HMDA Final Rule (2015 rule), the Bureau reviewed the then-current HMDA compliance systems and activities of financial institutions. The review used a cost-accounting, case-study methodology consisting, in part, of interviews with 20 financial institutions of various sizes, nine vendors, and 15 governmental agency representatives.[281] These interviews provided the Bureau with detailed information about HMDA compliance processes and costs.[282] This information showed how financial institutions gather and report HMDA data and provided the foundation for the approach the Bureau took to considering the benefits, costs, and impacts of the final rule. The Bureau augmented this information through the Small Business Review Panel process, the NPRM process, and through relevant academic literature, publicly available

[281] For a discussion of this methodology in the analysis of the costs of regulatory compliance, see Gregory Elliehausen, Bd. of Governors of the Fed. Reserve Sys., Staff Studies Series No. 171, *The Cost of Bank Regulation: A Review of the Evidence* (Apr. 1998), http://www.federalreserve.gov/pubs/staffstudies/1990-99/ss171.pdf. In addition, the Bureau recently conducted a Compliance Cost Study as an independent analysis of the costs of regulatory compliance. *See* Bureau of Consumer Fin. Prot., *Understanding the Effects of Certain Deposit Regulations on Financial Institutions' Operations: Findings on Relative Costs for Systems, Personnel, and Processes at Seven Institutions* (2013), http://files.consumerfinance.gov/f/201311_cfpb_report_findings-relative-costs.pdf.

[282] The financial institutions interviewed were selected to provide variation in key characteristics like institution type (bank, credit union, independent mortgage bank), regulator, record count, submission mechanism, number of resubmissions, and other designations like whether the financial institution was a multifamily or rural lender. However, the Bureau recognizes that this does not constitute a random survey of financial intuitions and the sample size might not be large enough to capture all variations among financial institutions.

information, and data sources available through the internet,[283] historical HMDA data, Call Report Data, NMLSR Data, public comments contained in the rulemaking docket established by the proposal, and the Bureau's expertise.

Based on the outreach described above, the Bureau classified in the 2015 rule the operational activities that financial institutions used for HMDA data collection and reporting into discrete compliance "tasks." This classification consists of 18 "component tasks," which can be grouped into four "primary tasks": data collection; data reporting and resubmission; related compliance and internal audits; and HMDA-specific supervisory exam preparation and assistance. The level of detail of the classification is intended to facilitate estimation of baseline costs and to enable rigorous analysis of the impact of the HMDA Rule across a wide range of financial institutions. Table 1 shows how the primary and component tasks are organized:

TABLE 6: HMDA OPERATIONAL STEPS FOR COLLECTING AND REPORTING HMDA DATA

Primary Task	Operational Order	Component Tasks
Task 1: Data collection	Step 1	Transcribing data
	Step 2	Resolving reportability questions
	Step 3	Transfer data to HMDA Management System (HMS)
Task 2: Reporting and re-submission	Step 4	Complete geocoding data
	Step 5	Standard annual edit and internal check
	Step 6	Researching questions
	Step 7	Resolving question responses
	Step 8	Checking post-submission edits
	Step 9	Filing post-submission documents
	Step 10	Creating public loan/application register (LAR)
	Step 11	Distributing public LAR
	Step 12	Distributing disclosure report

[283] Internet resources included, among others, sites such as Jstor.org, which provides information on published research articles; FFIEC.gov, which provides information about HMDA, CRA, and the financial industry in general; university websites, which provide information on current research related to mortgages, HMDA, and the financial industry; community group websites, which provide the perspective of community groups; and trade group websites, which provide the perspective of industry.

Primary Task	Operational Order	Component Tasks
	Step 13	Using vendor HMS/geocoding software*
Task 3: Compliance and internal audits	Step 14	Training
	Step 15	Internal audit
	Step 16	External audit
Task 4: HMDA-related exams	Step 17	Examination preparation
	Step 18	Examination assistance

* Whether or not a financial institution uses vendor HMS software is not a task per se. This item is included separately in order to distinguish the Data Entry Software (DES) system from other HMS systems that financial institutions may purchase from vendors.

In addition to collecting information about operational activities and costs, the Bureau also used outreach efforts and the Small Business Review Panel process to better understand the potential one-time costs that HMDA reporters would incur in response to the HMDA Rule. Management, legal, and compliance personnel would require time to learn new reporting requirements and assess legal and compliance risks. Financial institutions that use vendors for HMDA compliance would incur one-time costs associated with software installation, troubleshooting, and testing. Financial institutions that maintain their own reporting systems would incur one-time costs to develop, prepare, and implement necessary modifications to those systems. In all cases, financial institutions would need to update training materials to reflect new requirements and activities and may have had certain one-time costs for providing initial training to current employees.

Table 2 lists the primary tasks and component tasks, as well as formulas to estimate the cost of each component task for a representative financial institution.[284] This information can then be used to calculate, for a representative financial institution, the baseline compliance costs for each task (or for all tasks) per loan application (or for all loan applications).[285] Table 2 shows that for many component tasks the hourly wage is one factor in computing the baseline

[284] The formulas shown in Table 2 are specifically for a low-complexity financial institution, also referred as a tier 3 financial institution by the Bureau in this review and the 2015 HMDA Final Rule. The cost formulas for financial institutions in other tiers would be similar. Further detail on compliance complexity among financial institutions will be discussed below and in Table 3.

[285] "Applications" should be understood to refer to all transactions covered by Regulation C, which include loans and non-originated applications plus loans purchased without an application.

compliance cost. The other factor in computing the cost of HMDA compliance is time. The primary impact of the 2015 rule on these operational steps is an increase in time spent per task.

TABLE 7: COMPLIANCE TASKS AND BASELINE COMPLIANCE COSTS

Primary Task	Component Tasks	Baseline Compliance Costs at a Tier 3 FI	Fixed or Variable Cost
Data Collection	Transcribing data	(hourly wage) x (hours spent transcribing data per application) x (number of applications)	Variable
	Resolving reportability questions	(hourly wage) x (hours spent resolving reportability questions per application) x (number of applications with reportability questions)	Variable
	Transfer data to HMS	(hourly wage) x (hours spent transferring data to HMS per application) x (number of applications)	Variable
Reporting and Resubmission	Complete geocoding data	(hourly wage) x (hours spent geocoding per application) x (number of applications)	Variable
	Standard annual edit and internal check	(hourly wage) x (hours spent on edits and checks)	Fixed
	Researching questions	(hourly wage) x (hours spent researching questions per application) x (number of applications with questions)	Variable
	Resolving question responses	(hourly wage) x (hours resolving question responses per application) x (number of applications with contrary answers to questions)	Variable
	Checking post-submission edits	(hourly wage) x (hours spent checking post-submission edits per application)	Variable
	Filing post-submission documents	(hourly wage) x (hours spent filing post-submission documents)	Fixed
	Creating public LAR	(hourly wage) x (hours spent creating public LAR)	Fixed
	Distributing public LAR	(hourly wage) x (hours spent distributing public LAR) x (number of public LAR requests)	Fixed
	Distributing disclosure report	(hourly wage) x (hours spent distributing disclosure report) x (number of disclosure report requests)	Fixed
	FI uses vendor HMS software	Interviews indicated Tier 3 FIs use free DES instead of vendor HMS	Fixed
Audits	Training	(hourly wage) x (number of loan officers and processors) x (hours of training received by each)	Fixed

Primary Task	Component Tasks	Baseline Compliance Costs at a Tier 3 FI	Fixed or Variable Cost
	Internal audit	Interviews indicated Tier 3 FIs have no internal audit department	Fixed
	External audit	Cost based on representative average of information gathered during interviews	Fixed
Exams	Exam prep	(hourly wage) x (hours spent preparing for exam)	Fixed
	Exam assistance	(hourly wage) x (hours spent assisting during exams)	Fixed

NOTE: FI is "financial institution"; LOS is "Loan Origination System"; HMS is "HMDA Data Management Software"; LAR is "loan/application register"; DES is "Data Entry Software".

The Bureau recognized in the 2015 rule that the cost per loan of complying with the requirements of the HMDA Rule, as well as the total operational and one-time impacts of the HMDA Rule, would differ by financial institution. During the Bureau's outreach with financial institutions ahead of the 2015 rule, the Bureau identified seven key dimensions of compliance operations that were significant drivers of compliance costs. These seven dimensions are: the reporting system used; the degree of system integration; the degree of system automation; the compliance program; and the tools for geocoding, performing completeness checks, and editing. The Bureau found that financial institutions tended to have similar levels of complexity in compliance operations across all seven dimensions. For example, if a given financial institution had less system integration, then it tended to use less automation and less-complex tools for geocoding. Financial institutions generally did not use less-complex approaches on one dimension and more-complex approaches on another. The small entity representatives validated this perspective during the Small Business Review Panel meeting, as did the comments to the NPRM.

To capture the relationships between operational complexity and compliance costs, the Bureau used these seven dimensions in the 2015 rule to define three broadly representative financial institutions according to the overall level of complexity of their compliance operations. Tier 1 denotes a representative financial institution with the highest level of complexity, tier 2 denotes a representative financial institution with a moderate level of complexity, and tier 3 denotes a representative financial institution with the lowest level of complexity. The Bureau assumed that, for closed-end reporters, the tier 1 representative financial institution has 50,000 records, the tier 2 representative has 1,000 records, and the tier 3 representative has 50 records on the HMDA loan/application register. For each tier, the Bureau developed a separate set of assumptions and cost estimates. All of these assumptions and cost estimates apply at the institutional level.[286] In the Outline of Proposals prepared for the Small Business Review Panel, the Bureau provided a detailed exposition of the analytical approach used for the three tiers.[287] Small business representatives attending the Small Business Review Panel did not raise substantial objections to this three-tier approach, nor did commentors to the NPRM.

Table 3 provides an overview of all three representative tiers across the seven dimensions of compliance operations[288]:

TABLE 8: TYPES OF HMDA REPORTERS

	Tier 3 FIs tend to …	Tier 2 FIs tend to …	Tier 1 FIs tend to …
Systems	Enter data in Excel loan/application register Formatting Tool	Use LOS and HMS; Submit data via the HMDA Platform	Use multiple LOS, central SoR, HMS; Submit data via the HMDA Platform
Integration	(None)	Have forward integration (LOS to HMS)	Have backward and forward integration; Integration with public HMDA APIs
Automation	Manually enter data into loan/application register Formatting Tool; review and verify edits in the HMDA Platform	Loan/application register file produced by HMS; review edits in HMS and HMDA platform; verify edits via HMDA Platform	Loan/application register file produced by HMS; high automation compiling file and reviewing edits; verify edits via the HMDA platform
Geocoding	Use FFIEC tool (manual)	Use batch processing	Use batch processing with multiple sources
Completeness Checks	Check in HMDA Platform only	Use LOS, which includes completeness checks	Use multiple stages of checks
Edits	Use FFIEC Edits only	Use FFIEC and customized edits	Use FFIEC and customized edits run multiple times

286 All cost estimates reflect the assumptions defining the three representative financial institutions and reflect general characteristics and patterns, including man-hours spent on each of the 18 component tasks and salaries of the personnel involved. To the extent that an individual financial institution specializes in a given product or reports different numbers of records on its loan/application register, these representative estimates will differ from the actual cost to that particular financial institution.

287 See Bureau of Consumer Fin. Prot., Small Business Review Panel for Home Mortgage Disclosure Act Rulemaking: Outline of Proposals Under Consideration and Alternative Considered (Feb. 7, 2014), http://files.consumerfinance.gov/f/201402_cfpb_hmda_outline-of-proposals.pdf (Outline of Proposals).

288 The Bureau notes this description has taken into account the operational improvements the Bureau has implemented regarding HMDA reporting since issuing the 2015 HMDA Rule and differs slightly from the original taxonomy in the 2015 HMDA Rule that reflected the technology at the time of the study.

	Tier 3 FIs tend to …	Tier 2 FIs tend to …	Tier 1 FIs tend to …
Compliance Program	Have a joint compliance and audit office	Have basic internal and external accuracy audit	Have in-depth accuracy and fair lending audit

NOTE: FI is "financial institution"; LOS is "Loan Origination System"; HMS is "HMDA Data Management Software"; SoR is "System of Record."

6.2.2 Reporting open-end lines of credit

The baseline cost assumptions and cost estimates presented above have focused and were based on closed-end mortgage reporting, pre-HMDA Rule. By contrast, most open-end lines of credit were not reported under HMDA until the 2015 HMDA Final Rule took effect in 2018.[289] Hence, the Bureau assumed that the pre-HMDA Rule baseline costs for open-end reporting were zero.

Reporting of open-end lines of credit became mandatory under the 2015 HMDA Final Rule for those institutions that meet all of the criteria for a "financial institution" § 1003.2(g), including the open-end line of credit loan volume threshold for reporting. The Bureau believed that the HMDA reporting process and ongoing compliance cost structure for reporting open-end lines of credit under the HMDA Rule would be fundamentally similar to closed-end reporting. Therefore, for open-end reporting the Bureau adopted the three-tier approach and most of the key assumptions used for closed-end reporting above.[290]

6.2.3 Variable costs and consumer pass-through of costs

To further clarify the nature of the component tasks, Table 3 also identifies each component task as imposing either a variable or a fixed type of ongoing cost. Following standard terminology, variable costs are defined as costs that increase directly with the number of applications

[289] In the 2015 HMDA Final Rule, the Bureau estimated that only about 1 percent of total open-end lines of credit secured by dwellings were reported under HMDA.

[290] The Bureau's approach to open-end reporting in the 2015 HMDA Final Rule had two modifications. First, for the representative low-complexity open-end reporter, the Bureau assumed that the number of open-end lines of credit applications would be 150. This was set to both accommodate the threshold of 100 open-end lines of credit and to reasonably reflect the likely distribution among the smallest open-end reporters based on the Bureau's estimated number of likely open-end reporters and their volumes. Second, for the representative high-complexity open-end reporter, the Bureau assumed that the number of open-end line of credit applications would be 30,000. This reflects a reasonable distribution among the largest open-end reporters based on the Bureau's estimated number of likely open-end reporters and their volumes. The Bureau assumed that the number of open-end line of credit applications for the representative moderate-complexity open-end reporter would still be 1,000, just as for the moderate-complexity closed-end reporter.

reported.[291] The variable cost component tasks are: transcribing data; resolving reportability questions; transferring data to HMS; geocoding; researching questions; resolving question responses; and checking post-submission edits. In contrast, fixed costs are any costs that are independent of the number of applications reported; they are costs "per financial institution." These costs are typically lump-sum payments, often made to outside parties, that are paid regardless of the number of applications received. The eleven component tasks that are not variable-cost tasks are fixed-cost tasks.

Identifying variable versus fixed costs is important because consumers may have borne some indirect costs if financial institutions required to report under the HMDA Rule passed on some or all of their costs to consumers. Following standard economic theory, in a perfectly competitive market where financial institutions are profit maximizers, the affected financial institutions would pass on to consumers the marginal, *i.e.*, variable costs of complying with the HMDA Rule but would absorb one-time and fixed costs. Based on this theory, the Bureau used estimates of changes in variable costs in this report to assess the impact of the rule on consumers. If the market is perfectly competitive and financial institutions are profit-maximizing, estimated increases in variable costs by covered entities could potentially be passed through to consumers.[292] The Bureau notes that the market structure in the consumer mortgage lending market may differ from that of a perfectly competitive market (for instance due to information asymmetry between lenders and borrowers) in which case the pass-through to the consumers would most likely be smaller than the pass-through under the perfect competition assumption.[293, 294]

For this voluntary review, the Bureau relied on the HMDA compliance cost estimation methodology presented above, with key changes. The following section will first discuss these changes to the cost estimation methodology before presenting estimated cost increases of the HMDA Rule to representative financial institutions. Section 6.4 will then discuss and present aggregate compliance cost estimates.

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[291] Note that variable cost (per loan application) can depend on other factors, including the number of data points that must be reported.

[292] The Bureau notes that in some circumstances financial institutions may pass through fixed costs as well. If markets are not perfectly competitive or financial institutions are not profit maximizers, then the costs that a financial institution may pass on may differ. For example, financial institutions may attempt to pass on one-time costs and increases in fixed costs, or they may not be able to pass on variable costs.

[293] The further the market moves away from a perfectly competitive market, the smaller the pass-through would be.

[294] For the 2015 HMDA Final Rule, the Bureau received feedback through the Small Business Review Panel process and public comments that, if the market permitted, some lenders would attempt to pass on to consumers the entire amount of the increased cost of compliance and not just the increase in variable costs. To the extent that this were to occur, the impact of the rule on consumers would be higher than the Bureau's estimates based on variable costs. No data were available to determine whether lenders would pass on the entire increase in compliance costs.

6.3 Cost estimates for representative financial institutions

This section first discusses the Bureau's updated methodology to generate cost estimates for this voluntary review, focusing on the classification of new data points and data fields specified in the HMDA Rule and their alignment to existing data standards and regulations. The following subsections present the Bureau's best available cost estimates for closed-end loan reporters, open-end line-of-credit reporters, and financial institutions with partial exemptions from reporting certain HMDA data. This section then discusses updated estimates of financial institution pass-through of HMDA compliance costs to consumers and concludes with a comparison of the Bureau's cost estimates to industry estimates shared with the Bureau for this voluntary review.

6.3.1 Updates to data points, data fields, and other parameters for this review

The Bureau uses the term "data point" to refer to each piece of information to be reported and "data field" to refer to the actual entries on the loan/application register necessary to report the required data points. For example, race is one data point with 18 data fields: five numeric fields and three text fields for the race of the primary applicant, five numeric fields and three text fields for the race of the co-applicant (if any), and two numeric fields to record how the race data were collected for the primary applicant and co-applicant. Prior to the HMDA Rule, financial institutions were required to collect and report information for 22 data points (35 data fields), with the option of reporting one data point (three data fields) conveying denial reasons. The 2015 HMDA Final Rule implemented 11 new data points (25 data fields) specified in the Dodd-Frank Act, added 14 additional data points (25 data fields) pursuant to the Bureau's discretionary authority under HMDA section 304(b)(5) and (6), and revised certain pre-existing Regulation C data points (adding 25 data fields).[295]

One important consideration during the Bureau's rulemaking process in the 2015 HMDA Final Rule was the alignment of data fields to existing regulations or industry data standards. In order to develop this alignment, the Bureau analyzed each data point currently included in Regulation C, each new data point identified in the Dodd-Frank Act, and each additional data point the Bureau considered during the rulemaking process, to determine whether analogous data existed in the Uniform Loan Delivery Dataset (ULDD) (first preference) or the larger Mortgage Industry Standards Maintenance Organization (MISMO) data dictionary (second preference). In each

[295] *See* section 2.4.3 of this review for further information on the data points added and revised by the HMDA Rule.

instance, before the Bureau considered aligning to one of these external data standards, the MISMO/ULDD definition needed to be adequate to meet the objectives of HMDA and Regulation C. In some instances, even when analogous data existed in ULDD or MISMO, the Bureau decided to adopt data point definitions different than ULDD or MISMO when other considerations outweighed the benefit of alignment. For data points that could not be aligned with MISMO/ULDD, the Bureau either aligned these data points with definitions provided by other regulations if appropriate or used completely new definitions.

In the 2015 HMDA Final Rule, the Bureau did not require any financial institution to use or become familiar with the MISMO data standards. Rather, the HMDA Rule merely recognized that many financial institutions were already using the MISMO standard for collecting and transmitting mortgage data and used similar definitions for certain data points in order to reduce burden. Thus, this component of the HMDA Rule would partially offset the overall cost increases for financial institutions that already maintained data points with the same definitions and values as MISMO. Financial institutions unfamiliar with MISMO had to report data points under the HMDA Rule that were previously not required and may not have realized a similar offset in overall cost, but the Bureau posited that these financial institutions would not have experienced any increased burden from reporting HMDA data points solely as a result of the Bureau defining data points consistently with MISMO definitions.

The Bureau determined that aligning to industry standards would mitigate some of the burden for financial institutions by maintaining the same definition for HMDA reporting that financial institutions use in the ordinary course of business. Smaller, less-complex financial institutions would experience fewer potential benefits, because these institutions rely more on manual reporting processes and are more likely to originate portfolio loans where MISMO/ULDD may have not been adopted.

After the publication of the 2015 HMDA Final Rule, but before the new and revised data points in the HMDA Rule took effect in 2018, the ULDD and MISMO data standards were updated to reflect changes in the industry, alignment with HMDA, and alignment between Fannie Mae and Freddie Mac. To accurately estimate financial institutions' compliance costs for this voluntary review, the Bureau identified changes to the ULDD and MISMO data standards to determine which data points and data fields were more aligned with HMDA when the relevant parts of the HMDA Rule took effect in 2018.

To determine which data standards were updated, the Bureau referenced the ULDD Mortgage Partnership Finance Program Detailed Reference List of Required or Conditionally Required ULDD Fields and the MISMO Revised HMDA Rule Implementation Guide. Overall, 25 MISMO data points were identified as "data points added with switch from pre-statute to MISMO". MISMO-ULDD incorporated 15 data points from the DFA after the 2015 HMDA Final Rule.

These data points were identified using the MISMO Revised HMDA Rule Implementation Guide where data points were classified as “MISMO prescribed list”. These updated MISMO data points include denial reasons, loan terms, manufactured housing, demographics, and application channels. There are six “new” data points added by the Dodd-Frank Act and implemented by the 2015 HMDA Final Rule that are not covered by MISMO-ULDD related to loan terms and credit score.

Besides the above changes to data points and data fields, for this review the Bureau updated the mean hourly wage of compliance officers to $34.86 per hour, based on the Bureau of Labor Statistics estimate for May 2018. These updates to data points/fields and wages were incorporated into the HMDA compliance cost methodology presented in section 6.2 to generate the cost estimates that follow. Changes specific to loan types and financial institutions are discussed in the respective subsections below.

6.3.2 Estimates for closed-end reporters

This subsection first presents updated baseline cost estimates for closed-end HMDA reporting for representative financial institutions.[296] This is followed by a discussion of the estimated increase in reporting costs due to the HMDA Rule, and then these two types of estimates are combined to generate the total estimated cost of HMDA reporting. All estimates below and in the following subsections are in 2018 dollars and only include ongoing costs of HMDA compliance; one-time implementation costs are discussed in Section 6.5.

The Bureau estimates that baseline annual compliance costs of closed-end HMDA reporting without the additional requirements of the HMDA Rule were approximately $2,500 for a representative low-complexity financial institution with a loan/application register (LAR) size of 50 records; $33,300 for a representative moderate-complexity financial institution with a LAR size of 1,000 records; and $326,500 for a representative high-complexity financial institution with a LAR size of 50,000 records. This translates into a pre-HMDA Rule estimated per-application cost of approximately $50, $33, and $6.50 for representative low-, moderate-, and high-complexity financial institutions, respectively.

The HMDA Rule affected the operational tasks associated with collecting and reporting HMDA data. Accounting for operational improvements to HMDA reporting undertaken by the Bureau, covered persons’ ongoing compliance costs increased by approximately $2,100 for a representative low-complexity financial institution; $11,400 for a representative moderate-complexity financial institution; and $23,500 for a representative high-complexity financial

[296] The Bureau’s updated baseline estimates incorporate operational improvements in HMDA reporting that were implemented at approximately the same time the HMDA Rule took effect.

institution, per year. This translates into an increased cost per loan application of approximately $42, $11, and $0.47 for representative low-, moderate-, and high-complexity financial institutions, respectively.

Combining the baseline costs and cost increases discussed above, the total estimated costs of ongoing annual HMDA Rule compliance for closed-end reporters are approximately $4,600 for a representative low-complexity financial institution; $44,700 for a representative moderate-complexity financial institution; and $350,000 for a representative high-complexity financial institution. The post-HMDA Rule estimated costs per loan application are approximately $92, $45, and $7 respectively for representative low-, moderate-, and high-complexity financial institutions.

For financial institutions required to report HMDA data quarterly, which the Bureau estimates are all high-complexity financial institutions, the baseline annual compliance costs of HMDA reporting are approximately $358,600 with a LAR size of 60,000—the minimum LAR size for quarterly reporting. This translates into a pre-HMDA Rule estimated cost per application of approximately $6. The estimated increase in ongoing compliance costs is approximately $55,300, resulting in a total estimated ongoing cost for HMDA Rule compliance of approximately $413,900 for quarterly reporters. This translates into a post-HMDA Rule estimated cost per application of approximately $7.

6.3.3 Estimates for open-end reporters

There are two main differences in the estimates for financial institutions reporting open-end lines of credit compared to the previous estimates for reporting closed-end loans. First, the Bureau assumes a pre-HMDA Rule baseline of zero dollars for open-end reporting, as discussed in the above section. Therefore, the post-HMDA Rule impact on open-end reporting will be the full cost of HMDA reporting. Second, as discussed above and in Chapter 2, the open-end reporting threshold from 2018 to 2021 was 500 open-end lines of credit originated in each of the previous two calendar years. This is higher than both the 25 closed-end loan threshold for 2018 and 2019, and the 100 closed-end loan threshold for 2020 onward.

Using 2018 dollars, the Bureau estimates that annual compliance costs of HMDA reporting for open-end loan applications under the HMDA Rule were approximately $24,800 for a representative low-complexity financial institution with a loan/application register size of 500 records; $44,700 for a representative moderate-complexity financial institution with a LAR size of 1,000 records; and $286,400 for a representative high-complexity financial institution with a LAR size of 30,000 records. The resulting post-HMDA rule estimated costs per open-end loan application are approximately $50, $45, and $10, respectively, for representative low-, moderate-, and high-complexity financial institutions.

The Bureau assumes that financial institutions reporting both closed-end loan and open-end line-of-credit applications under the HMDA Rule treat both categories of loans as separate operations within their institutions. Therefore, the compliance cost estimates for these institutions are equal to the HMDA reporting costs of a firm reporting a similar closed-end LAR volume, plus the HMDA reporting costs of a firm reporting a similar open-end LAR volume. This is an upper-bound estimate because the Bureau does not assume cost efficiencies within financial institutions originating both types of loans.

6.3.4 Estimates for financial institutions with partial exemptions

Under the Economic Growth, Regulatory Relief, and Consumer Protection Act (EGRRCPA), certain insured depository institutions and insured credit unions do not need to collect or report certain data based on their lending volume in the two preceding calendar years.[297] Because the loan thresholds for having a partial exemption from HMDA reporting are 500 closed-end mortgage loans and 500 open-end lines of credit, financial institutions with a partial exemption will primarily be low-complexity financial institutions, but with the possibility of moderate-complexity financial institutions with a LAR size close to the originated-loan threshold of 500 loans. Firms with a partial exemption will have a lower compliance cost of HMDA reporting due to reporting a smaller set of data points and fields.

As stated above, the baseline annual compliance costs of HMDA reporting are approximately $2,500 for a low-complexity financial institution with a LAR size of 50, but the cost increase is $600 for financial institutions with a partial exemption versus $2,100 under a full-reporting requirement. This translates into an approximately $12 increase in cost per loan application. The total cost is therefore $3,100 for a low-complexity financial institution covered by the exemption, or approximately $61 per loan application versus $92 per loan application under full reporting.

For a moderate-complexity financial institution with a LAR size of 500, the baseline costs of HMDA reporting are approximately $30,200, or approximately $60 per loan application. The cost increase resulting from the HMDA Rule for this financial institution with a partial exemption is approximately $3,400, resulting in a total HMDA reporting cost of approximately $33,500, or approximately $67 per loan application. If the financial institution was not eligible for a partial exemption and had to report all HMDA data fields, the cost increase resulting from

[297] *See* sections 2.3.4 and 2.4.3 of this review for further background regarding EGRRCPA and the HMDA Rule.

the HMDA Rule is approximately $11,200, resulting in a total cost of $41,400, or approximately $83 per loan application.

6.3.5 Estimating pass-through of costs to consumers

This subsection discusses how much of the cost increase due to the HMDA Rule may be passed through to consumers, based on estimated changes in variable costs for different types of representative financial institutions.

Using updated estimates, the pre-HMDA rule baseline for variable costs for a low-complexity financial institution with a closed-end LAR size of 50 is $19 per loan application. The estimated post-Rule variable cost is $45 per loan application, resulting in a variable cost increase of $26 per loan application.

For a moderate-complexity financial institution with a closed-end LAR size of 1,000, the pre-HMDA Rule baseline for variable costs is $6.22 per loan application. The estimated post-Rule variable cost is $6.65 per loan application, resulting in a variable cost increase of $0.43 per loan application.

For a high-complexity financial institution with a closed-end LAR size of 50,000, the pre-HMDA Rule baseline for variable costs is $3.16 per loan application. The estimated post-Rule variable cost is $3.18 per loan application, resulting in a variable cost increase of $0.02 per loan application.

To generate an estimated average variable cost increase per closed-end loan application resulting from the HMDA Rule, the estimates above were weighted by the LAR volume reported by low-, moderate-, and high-complexity financial institutions. Averaging variable costs across all HMDA reporters and closed-end loan applications results in an estimated mean variable cost increase of $1.96 per closed-end loan application in 2018.

For open-end lines of credit, the Bureau assumes that these applications and originations are all newly reported post-HMDA Rule, so there is a baseline of $0 and all new variable costs may be passed on to consumers. Therefore, for a moderate-complexity financial institution with a LAR size of 1,000, the estimated post-Rule variable cost is $6.65 per loan application; for a high-complexity financial institution with a LAR size of 50,000, the variable cost estimate is $3.18 per loan application. We assume that no low complexity financial institutions reported open-end lines of credit given the reporting thresholds.

6.3.6 Comparing the Bureau's cost estimates to industry comments

Recall that for low-complexity financial institutions, the Bureau's estimated costs per application post-HMDA Rule were $92 for financial institutions reporting all HMDA data and $61 for financial institutions under a partial exemption from full HMDA reporting. These estimates are within a range of costs per application submitted by industry commenters that were reported in the 2020 HMDA Final Rule. Firms that submitted comments in response to the 2019 HMDA Proposal had loan/application register volumes ranging from 25 to 130 loan applications and reported average costs per loan application ranging from $50 to $100.

Financial institutions also reported compliance costs estimates during the Bureau's industry outreach for this voluntary review; their estimates were again similar to the Bureau's estimates for this voluntary review as well as the industry responses to the 2019 HMDA Proposal. The smallest financial institution interviewed had a LAR volume ranging from 300 to 500 loan applications annually since 2018, with a post-HMDA Rule compliance cost per loan application of $125. For this financial institution, auditing services conducted by an external firm were a major driver of their compliance costs, costing almost $90 per loan/application record. A moderate-complexity financial institution originating only closed-end mortgage loans, with a LAR volume of roughly 500 loan applications annually from 2016 to 2020, reported a post-HMDA Rule cost per loan application of $30 to $40. Another moderate-complexity financial institution with a high proportion of open-end lines of credit had an increase in ongoing compliance costs, but lower than the Bureau's estimate suggested. For this institution, their annual LAR volume increased from slightly over 200 prior to the HMDA Rule to over 1,900 in 2020; this increase was due to open-end lines of credit being reported in HMDA. This institution's cost per loan application rose from under $7 pre-HMDA Rule to over $26 post-HMDA Rule, less than the Bureau's estimate of $45 per loan application for moderate-complexity financial institutions. Finally, a high-complexity financial institution with an annual LAR volume of over 30,000 loan applications per year since 2018 reported a post-HMDA Rule cost per loan application under $7, similar to the Bureau's estimate listed above.

6.4 Aggregate compliance cost estimates

This section first reviews the Bureau's aggregate cost estimates in the 2015 HMDA Final Rule, followed by updates to the Bureau's estimation methodology, and then concluding with the Bureau's current estimates of market-level impacts of the HMDA Rule on HMDA reporting. Again, all estimates in this section are in 2018 dollars unless indicated otherwise.

The preceding section focused on estimation of compliance costs at the institutional level. To aggregate institution-level cost estimates in order to generate market-level cost estimates for the 2015 HMDA Final Rule, the Bureau developed an approach to map all HMDA closed-end reporters to one of the three tiers. Because financial institutions are arrayed along a continuum of compliance costs that cannot be precisely mapped to the three representative tiers, the Bureau adopted a conservative strategy based on possible distributions of the number of financial institutions in each tier. To identify these distributions, the Bureau relied on the 2013 HMDA data to estimate the total number of closed-end reporters and closed-end loan/application register (LAR) records for the 2015 HMDA Final Rule.[298]

The Bureau created aggregate cost estimates with two main steps. First, the Bureau identified all possible tier distributions among closed-end reporters that were consistent with the reporter and record counts, using the same LAR sizes adopted in the institutional-level analysis (50,000 for tier 1 institutions; 1,000 for tier 2 institutions; and 50 for tier 3 institutions).[299] Second, for the subset of tier distributions satisfying these closed-end reporter and record count constraints, the Bureau then estimated market-level costs associated with closed-end reporting based on the tier-specific assumptions and cost estimates. That is, for a given distribution derived in the first step, the Bureau multiplied the institutional-level cost estimate associated with closed-end reporting for each tier by the number of institutions in that tier, and then summed across all three tiers. The distributions with the lowest- and highest-estimated market-level costs provided the lower and upper bounds for the market-level closed-end cost estimates throughout the consideration of the benefits and costs.[300] These two distributions likely do not match the state of the world exactly. Nevertheless, for the set of assumptions described above, these distributions provide upper and lower bounds for the market-level estimates of closed-end

[298] The total number of reporters was 7,197 and the total number of loan/application register records was 16,698,000 in the 2013 HMDA data.

[299] Specifically, the Bureau set the following two constraints: (1) the total number of HMDA reporters in all three tiers must sum to 7,197; and (2) using the assumed loan/application register size in each tier, the total number of loan/application register records by all reporters in all three tiers must sum to 16,698,000. Additionally, the Bureau imposed two constraints. First, the Bureau classified all 184 HMDA reporters with over 10,000 records as tier 1, because the Bureau's investigation led it to believe that these large financial institutions all possess a high level of complexity in HMDA reporting. Second, the Bureau assumed that at least 20 percent of financial institutions were tier 2 and at least 20 percent were tier 3. These assumptions helped to narrow the range of possible combinations. The Bureau also substituted the actual loan/application register size of the 184 largest HMDA reporters into the constraint for the loan/application register size of a tier 1 financial institution, further narrowing the range of possible combinations. The Bureau notes that all distributions identified are mathematically possible based on the Bureau's assumptions.

[300] Specifically, the Bureau arrived at two distributions for all closed-end reporters: (1) the first distribution has 3 percent of financial institutions in tier 1, 71 percent of financial institutions in tier 2, and 26 percent of financial institutions in tier 3; and (2) the second distribution has 4 percent of financial institutions in tier 1, 28 percent of financial institutions in tier 2, and 68 percent of financial institutions in tier 3.

reporting. The Bureau recognized that this range estimate did not permit perfect precision in estimating the impact of the 2015 HMDA Final Rule.

For this voluntary review, the Bureau took a different approach to more accurately generate aggregate cost estimates using 2018 HMDA data of loan applications and originations, the first year the data reflected changes under the HMDA Rule. The Bureau first generated cost estimates for representative financial institutions using LAR volume bins for tier 3, tier 2, and tier 1 financial institutions. Then for each HMDA reporter in 2018, their reported LAR volume in 2018 was rounded up to the value of the next highest LAR volume bin and assigned the estimated cost corresponding with that LAR volume bin. Closed-end loan reporters have a pre-HMDA Rule baseline cost estimate and a post-HMDA Rule cost estimate; the difference between the two estimates is the estimated cost increase due to the HMDA Rule. For open-end reporters, the Bureau assumes that their baseline cost of HMDA reporting is zero because open-end line-of-credit applications and originations were rarely reported pre-HMDA Rule. Therefore, for open-end reporters, the estimated post-HMDA Rule cost is equal to the increased cost due to the HMDA Rule. For financial institutions reporting both closed-end loan and open-end line-of-credit applications, their total cost of HMDA reporting is the sum of their closed-end and open-end reporting.

In 2018 there were approximately 3,650 financial institutions that reported at least one closed-end mortgage loan under the HMDA Rule's full reporting criteria. The aggregate baseline ongoing compliance cost for closed-end loan reporters in 2018 was approximately $114,500,000. The aggregate post-HMDA Rule ongoing compliance cost for closed-end loan reporters in 2018 was approximately $147,800,000, with an estimated market-level impact of the HMDA Rule on the ongoing compliance cost of closed-end loan reporting estimated at approximately $33,400,000 in 2018. For comparison, the Bureau's estimates from the 2015 HMDA Final Rule of the market-level impact on closed-end loan reporting ranged from $26,700,000 to $41,400,000 annually (in 2015 dollars and including HMDA operational improvements).

In 2018 there were approximately 2,050 financial institutions that had a partial exemption from HMDA reporting. Because of the HMDA Rule's open-end loan reporting threshold of 500 originated loans in 2018, the separate partial exemption thresholds of 500 closed-end originations and 500 open-end originations, and the majority of financial institutions with a partial exemption each reporting less than 500 originations in 2018 HMDA data, the Bureau assumes all financial institutions with a partial exemption as closed-end loan reporters for the purpose of generating cost estimates in this review. The aggregate baseline ongoing compliance cost for financial institutions with a partial exemption was approximately $11,000,000 in 2018, and the aggregate post-HMDA Rule ongoing compliance cost for financial institutions with a partial exemption was approximately $14,500,000 in 2018. Therefore, the estimated market-level impact of the HMDA Rule on the ongoing compliance cost incurred by financial institutions with a partial exemption in 2018 was approximately $3,500,000. Without the partial exemption from HMDA reporting, the post-HMDA Rule ongoing compliance cost for these financial institutions would have been approximately $22,500,000, and the market-level impact of the HMDA Rule would have been approximately $11,500,000.

For open-end lines of credit in 2018, there were 26 financial institutions reporting only open-end lines of credit in their LARs and over 1,000 financial institutions reporting both open-end lines of credit and closed-end loans in their LARs. The aggregate ongoing compliance cost for all open-end HMDA reporting operations in 2018 was approximately $30,400,000. For comparison, the Bureau's estimate from the 2015 HMDA Final Rule of the market-level impact for reporting open-end lines of credit was approximately $26,000,000 per year (in 2015 dollars and including HMDA operational improvements).

The combined impact on ongoing compliance costs from financial institutions reporting full information of closed-end mortgage loans ($33,400,000), financial institutions reporting HMDA data under a partial exemption ($3,500,000), and financial institutions reporting open-end lines of credit ($30,400,000), translates into a total market-level impact of the HMDA Rule on ongoing compliance costs of approximately $67,300,000 in 2018. For comparison, the Bureau's estimates from the 2015 HMDA Final Rule of the combined market-level impacts ranged from $53,600,000 to $68,300,000 annually (in 2015 dollars and including HMDA operational improvements).

6.5 Estimates of one-time costs incurred by financial institutions

Besides impacting ongoing compliance costs, the HMDA Rule imposed one-time costs necessary to modify processes in response to the new regulatory requirements. The Bureau expected that financial institutions' management, legal, and compliance personnel took time to learn new reporting requirements and to update HMDA reporting software and processes. For example:

- Financial institutions that used vendors for HMDA compliance would have incurred one-time costs associated with software installation, troubleshooting, and testing.
- Financial institutions that maintained their own reporting systems would have incurred one-time costs to develop, prepare, and implement necessary modifications to those systems.

In addition, financial institutions needed to update training materials to reflect new requirements and activities and may have incurred additional one-time costs for providing initial training to current employees.

In the analysis for the 2015 HMDA Final Rule, the Bureau estimated that these one-time costs for reporting closed-end mortgage loans would be approximately $3,000 (in 2015 dollars) for low-complexity financial institutions, $250,000 for moderate-complexity financial institutions, and $800,000 for high-complexity financial institutions. The Bureau also assumed that if a lender reported both closed-end mortgage loans and open-end lines of credit, the one-time cost of integrating open-end lines of credit into HMDA reporting processes would be roughly equal to 50 percent of the one-time cost absent mandatory reporting of such products. Therefore, the Bureau estimated that moderate- and high-complexity financial institutions that were required to report open-end lines of credit as well as closed-end mortgage loans would incur additional one-time costs of $125,000 and $400,000, respectively, due to open-end reporting. The Bureau believed that the additional one-time costs of open-end reporting would be relatively low for low-complexity financial institutions.[301] For the small number of lenders newly reporting open-end lines of credit but not closed-end mortgage loans, the Bureau adopted the one-time cost estimates for similar-sized closed-end reporters and estimated that the one-time costs for these open-end reporters would be approximately $3,000 for low-complexity financial institutions and $250,000 for moderate-complexity financial institutions.[302]

For this voluntary review, the Bureau received limited quantitative evidence from its request for information (RFI) and industry outreach related to one-time costs. Industry comments submitted to the RFI expressed concern with the cost burden, but one large financial institution's statement of $100,000 in one-time costs to comply with the HMDA Rule was within the Bureau's estimate range of one-time costs presented in the 2015 HMDA Final Rule.[303]

The HMDA reporters interviewed in the Bureau's limited outreach focused on increased ongoing compliance costs, with stand-alone one-time costs mentioned but not emphasized. One financial institution with a high proportion of home equity loan applications reported a one-time doubling of the training time and cost to implement the HMDA Rule, with the expectation that the training cost would decrease in future years. Another small financial institution reported new ongoing costs from software purchases and having an external firm conduct quarterly

[301] For low-complexity financial institutions, the Bureau believed that these institutions were less reliant on information technology systems for HMDA reporting and that they would process open-end lines of credit on the same system and in the same business unit as closed-end mortgage loans.

[302] The Bureau estimated in the 2015 HMDA Final Rule that none of the open-end only reporters would fall into the high-complexity category.

[303] *See* Appendix B of this report.

audits of their HMDA data, but no other one-time costs. Finally, a large nonbank financial institution reported higher one-time costs prior to the HMDA Rule due to increased application volumes in 2015 and 2016 as well as changes to NMLS data reporting in 2017. These stated one-time costs are similar to what the Bureau (in the 2015 HMDA Final Rule) expected financial institutions to incur.

APPENDIX A: THE HMDA RULE AND BUREAU PURPOSES AND OBJECTIVES

A.1 Introduction

As discussed in the Introduction of this report, a 1022(d) assessment under the Dodd-Frank Act requires an evaluation, among other relevant factors, of the rule's effectiveness in meeting the specific goals stated by the Bureau, as well as the Bureau's purposes and objectives specified in section 1021 of title X of the Dodd-Frank Act. While the Bureau found the HMDA Rule to be not significant for purposes of section 1022(d), the Bureau decided to conduct a voluntary review of the HMDA Rule. Pursuant to that voluntary review, this appendix highlights certain core findings in the body of the report with respect to the Dodd-Frank Act's purposes and objectives.[304]

A.2 Purposes

Under section 1021(a) of the Dodd-Frank Act, "[t]he Bureau shall seek to implement and, where applicable, enforce federal consumer financial law consistently for the purpose of ensuring that all consumers have access to markets for consumer financial products and services and that markets for consumer financial products and services are fair, transparent, and competitive."[305]

A.2.1 All consumers have access to markets for consumer financial products and services.

The HMDA Rule is a data collection, reporting and disclosure statute. The HMDA Rule is not principally focused on regulating the interactions between lenders and borrowers. The HMDA Rule does not prohibit or restrict particular types of mortgage products or the features of such

[304] As evidenced below, the degree to which the HMDA Rule implicates each of the purposes and objectives of title X varies, and the Bureau has endeavored to include in this appendix information that may be relevant to those purposes and objectives directly and indirectly implicated. The Bureau further acknowledges that some of the title X purposes and objectives may overlap and some of the findings discussed below may be relevant for multiple purposes and objectives. Thus, while this appendix distinguishes between purposes and objectives in order to highlight key findings in the body of the report, the appendix is not meant as a comprehensive summary of all findings relevant to each purpose and objective.

[305] 12 U.S.C.5511(a).

products and therefore does not directly affect consumers' access to mortgage products. However, access to credit could be affected indirectly if the HMDA Rule affected lenders' expected profitability of extending credit or borrowers' expected benefit of borrowing. An increase in the cost of extending credit reduces the expected profitability of each loan, which may cause lenders to tighten lending standards or increase borrowing costs, either of which can reduce access to mortgage credit. As for borrowers' expected benefits, the increased transparency that comes with data on additional transactions and data points reduces information asymmetries and increases access to credit at appropriate terms and conditions, especially for more vulnerable populations at higher risk of discrimination.

When promulgating the 2015 HMDA Final Rule, the Bureau predicted that the rule would impose both one-time and ongoing operational costs to covered financial institutions. The Bureau also estimated that the revised institutional reporting thresholds in the 2015 HMDA Final Rule would not impose any direct costs on consumers. However, consumers would bear some indirect costs if financial institutions that were required to report under the final rule passed on some or all of their costs to consumers. These higher costs could reduce access to credit markets for some consumers who can no longer afford credit at these higher costs. Following standard economic theory, in a perfectly competitive market where financial institutions are profit maximizers, the affected financial institutions would pass on to consumers the marginal, *i.e.*, variable costs per application or origination and would absorb one-time and fixed costs of complying with the rule. Based on this theory, the Bureau used estimates of changes in variable costs in this report to assess the impact of the rule on consumers. If the market is perfectly competitive and financial institutions are profit-maximizing, estimated increases in variable costs by covered entities could potentially be passed through to consumers.[306] The Bureau notes that the market structure in the consumer mortgage lending market may differ from that of a perfectly competitive market (for instance due to information asymmetry between lenders and borrowers) in which case the pass-through to the consumers would most likely be smaller than the pass-through under the perfect competition assumption.[307] Overall, the Bureau estimated that the 2015 HMDA Final Rule would increase the cost of extending credit, but that this increase was not especially large relative to overall costs of mortgage credit.[308] These expenses would be amortized over the life of the loan and

[306] The Bureau notes that in some circumstances financial institutions may pass through fixed costs as well. If markets are not perfectly competitive or financial institutions are not profit maximizers, then the costs that a financial institution may pass on may differ. For example, financial institutions may attempt to pass on one-time costs and increases in fixed costs, or they may not be able to pass on variable costs.

[307] The further the market moves away from a perfectly competitive market, the smaller the pass-through would be.

[308] The Bureau estimated in the 2015 HMDA Final Rule that the final rule would increase variable costs by $23 per closed-end mortgage application for representative low-complexity institutions, $0.20 per closed-end mortgage

represented a negligible increase in the cost of a mortgage loan. In promulgating the Rule, the Bureau stated that it did not expect the Rule would materially adversely affect consumers' access to credit in the long or short term even if financial institutions passed on these costs to consumers.[309] To the extent that the market is less than perfectly competitive and financial institutions are able to pass on a greater amount of these compliance costs, the cost to consumers would be slightly larger than the Bureau's estimates in the 2015 HDMA Final Rule. Even so, the Bureau stated its belief in the 2015 rule that the potential costs that would be passed on to consumers would be small.

As part of implementing the 2015 HMDA Final Rule, the Bureau also separately implemented several operational enhancements and modifications designed to reduce the burden of reporting HMDA data.[310] The Bureau also previously found that the 2017, 2019 and 2020 HMDA rules, which increased reporting thresholds, reduced ongoing and one-time costs to covered entities that were delineated in the 2015 HMDA Final Rule. The Bureau estimated that affected entities could incur one-time costs from having to adapt to the rule(s).[311] However, the overall reductions in costs due to these rules increased lender's expected profitability, which could indirectly increase consumers access to credit markets.

Chapter 6 evaluates the HMDA Rule's effects on financial institutions' compliance costs incurred from HMDA reporting, finding that industry data standards and HMDA data definitions have become more aligned since the HMDA Rule was announced, potentially reducing the burden of HMDA compliance. Chapter 6 further examines the impact of the HMDA Rule on costs per loan application for a variety of institution types. The assessment report's evidence suggests that the HMDA Rule increased the cost of originating mortgage products, but

applications for representative moderate-complexity institutions, and $0.10 per closed-end mortgage application for representative high-complexity institutions. For open-end lines of credit, the Bureau estimated that the final rule would increase variable costs by $41.50 per credit application for low-complexity institutions, $6.20 per application for representative moderate-complexity institutions, and $3 per application for representative high-complexity institutions. *See* Home Mortgage Disclosure (Regulation C); 80 FR 66127, 66268 (Oct. 28, 2015) (2015 HMDA Rule).

[309] 2015 HMDA Rule at 80 FR 66268.

[310] For example, working to improve the geocoding process, creating a web-based HMDA data submission and edit-check system, developing a data-entry tool for small financial institutions that currently use Data Entry Software, and otherwise streamlining the submission and editing process to make it more efficient. The Bureau also adopted definitions of many data points that were consistent with existing regulations and with industry data standards for residential mortgages. The Bureau stated that all of these enhancements would improve the submission and processing of data, increase clarity, and reduce reporting burden (2015 HMDA Rule at 66304).

[311] Such one-time costs would include training and system changes in affected entities' HMDA reporting and loan origination systems. The Bureau projected negligible costs to covered entities from the rule. *See also* the 2017 HMDA Final Rule, 82 FR 43088, 43127-28 (Sept. 13, 2017).

that this increase was not especially significant relative to the overall cost of origination.[312] The Bureau received limited quantitative evidence from its request for information and limited industry outreach related to one-time costs. The cost statements were within the range of the Bureau's one-time costs estimates presented in the 2015 HMDA Final Rule. Chapter 6.5 discusses the estimates of one-time costs incurred by financial institutions in more detail. The overall effects of the Rule on costs to covered institutions are discussed in more detail in Chapter 6.3, Chapter 6.4 and Chapter 6.5.

As discussed above, the Bureau stated when issuing the 2015 HMDA Final Rule that it did not expect the final rule would adversely affect consumers' access to credit. Chapter 3, Section 3.3.4 considers the market-level measures related to access to credit, including an evaluation of the potential effects of the rule on the availability of credit. To evaluate whether there were any changes in mortgage availability or in the number of originating institutions over time, we plot the implied number of monthly first-lien, closed-end mortgage originations between 2015 and 2019. Based on visual inspection of origination counts from 2015 to 2019, we find no obvious change in the number of closed-end mortgage originations in January 2017, when the closed-end reporting threshold for depository institutions changed, or in January 2018 when other 2015 HMDA Final Rule provisions took effect. Additional regression analysis on originated closed-end mortgages or home-equity lines of credit (HELOCs) indicates mixed results. Overall, the data indicate no evidence of a decrease in institutions opting to originate closed-end mortgages after January of 2018. For HELOCs, the evidence indicates financial institutions were somewhat less likely to originate HELOCs during the post-HMDA Rule time period, although there is no parallel reduction in the number of HELOC originations after January 2018.

A.2.2 Markets for consumer financial products and services are fair, transparent, and competitive.

The HMDA Rule generally establishes which financial institutions, transactions, and data points are covered under HMDA's reporting requirements. The 2015 HMDA Final Rule implemented new data points and made revisions to certain pre-existing data points to clarify their requirements, provide greater specificity in reporting, and align certain data points more closely with industry standards, among other changes. The 2015 rule adjusted institutional coverage by

[312] In the 2015 HMDA Final Rule, the Bureau estimated that the market-level, one-time cost estimates of additional reporting requirements for open-end reporters represented 0.15 percent of the total annual non-interest expenses, and 0.3 percent of the total annual non-interest expenses of then-current HMDA reporters. These expenses would be amortized over the life of the loan and represented a negligible increase in the cost of a mortgage loan. In Chapter 6, the Bureau finds that industry estimates of HMDA compliance costs per loan application reported to the Bureau were similar to the Bureau's estimates from the 2015 HMDA Final Rule.

adopting loan-volume thresholds of 25 closed-end mortgage loans or 100 open-end lines of credit for all financial institutions.[313] The Bureau also modified the frequency of reporting for certain financial institutions with large numbers of transactions, and the requirements regarding the public availability of the HMDA disclosure statement and modified loan/application register.[314] In April 2020, the Bureau issued the 2020 HMDA Final Rule, which increased the closed-end coverage threshold to 100 effective July 1, 2020, and set the permanent open-end coverage threshold at 200 effective January 1, 2022, upon the expiration of the temporary threshold extended by the 2019 HMDA Final Rule.[315] A subsequent court decision in 2022 vacated the 2020 HMDA Final Rule's increase to the closed-end threshold.[316] Accordingly, the closed-end threshold is 25, originally established in the 2015 HMDA Final Rule. This broad market coverage promotes fairness in the sense of establishing a level playing field among covered financial institutions in this market.

With respect to transparency, HMDA is a disclosure statute that has been updated and expanded over time in response to the changing needs of homeowners and the evolution of the mortgage market. Congress intended HMDA to provide the public and public officials with information to help determine whether financial institutions are serving the housing needs of their communities, to target public investment in communities, and to identify possible discriminatory lending patterns and enforce antidiscrimination statues. Today, the HMDA data are the preeminent data source for regulators, researchers, economists, industry, and advocates analyzing the mortgage market both for the three stated purposes of HMDA and for general market monitoring. In promulgating the 2015 HMDA Final Rule, the Bureau noted that the final rule's improvements to HMDA data address two market failures: (1) The under-production of public mortgage data by the private sector, and (2) the information asymmetries in credit markets.[317] A crucial feature of the HMDA data is that they include information about applications in addition to originations and purchases. Thus, users can examine both the supply and demand regarding mortgage credit and understand the reasons for discrepancies between

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[313] In the 2015 HMDA Final Rule, the Bureau increased the closed-end mortgage loan reporting threshold or depository institutions from one to 25. The 2015 HMDA Final Rule also expanded institutional coverage by requiring the reporting of closed-end loans by non-depository institutions.

[314] 2015 HMDA Final Rule.

[315] 85 FR 28364 (May 12, 2020) (2020 HMDA Final Rule). As discussed earlier, in 2017, before the thresholds outlined in the 2015 rule took effect, the Bureau temporarily increased the open-end threshold to 500 open-end lines of credit for two years (calendar years 2018 and 2019). In 2019, the Bureau extended to January 1, 2022, the temporary threshold of 500 open-end lines of credit for open-end coverage.

[316] Home Mortgage Disclosure (Regulation C), 85 FR 28364 (May 12, 2020), *vacated in part by Nat'l Cmty. Reinvestment Coal., et al., v. Consumer Fin. Prot. Bureau*, No. 20-cv-2074, 2022 WL 4447293 (D.D.C. Sept. 23, 2022).

[317] 2015 HMDA Final Rule.

supply and demand at various levels of analysis, including by lender, geographic region, type of product or feature, credit risk, income, and race or ethnicity.

As a sunshine statute, the foundation of HMDA and the HMDA Rule is to provide more transparency to mortgage markets. As one example of this, Congress found that improving pricing information would bring greater transparency to the market and facilitate enforcement of fair lending laws.[318] In promulgating the 2015 HMDA Final Rule, the Bureau stated that increasing transparency regarding price generally increases competition and ultimately benefits consumers.

Chapter 3, section 3.3, explores how the HMDA Rule affected changes in transactional and institutional reporting requirements under the HMDA Rule and analyzes their impacts on coverage of HMDA data, and the effect of the HMDA Rule on the availability of credit. As discussed in the previous section, visual inspection of the time series of first lien, closed-end originations from 2015 to 2019 as well as regression analysis on originated closed-end mortgages and HELOCs indicate mixed results. Chapter 4 in this report presents changes to the data points implemented by the 2015 rule. The DFA and the 2015 rule substantively enriched the information related to pricing outcomes, adding several data points on the price of loans and applications, and expanding the scope of the rate spread data points. Chapter 4 discusses, one-by-one, and in groups, how these new and revised data points were generally reported, certain patterns that they reveal, and how the patterns revealed can help further the HMDA purposes as initially envisioned by the 2015 rule. Chapter 4, section 4.2.3 and 4.2.5, explore how the new or revised HMDA data points contribute to predicting underwriting and pricing outcomes. Chapter 5 evaluates the benefits of the HMDA Rule and provides a broad overview of the use of the HMDA data by internal and external stakeholders. Chapter 6, section 6.3, considers the potential effects of the HMDA Rule on lenders' costs and revenues. The Bureau updated the methodologies used in the 2015 HMDA Final Rule to estimate cost impacts from the HMDA Rule. While the Bureau was able to produce reasonable estimates of the cost of compliance for representative tiers of financial institutions, this report was not able to determine if the HMDA Rule increased costs for some firms more than for others within the same tier.[319]

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[318] H.R. Rep. No. 111-702, at 191 (2011).

[319] HMDA reporters compete with each other to offer mortgage credit products to consumers. If the HMDA Rule increased costs for some firms more than for others, then these firms would be relatively less competitive. Similarly, if the HMDA Rule resulted in firm entry or exit, then this might affect the degree of competition in the market.

A.3 Objectives of title X of the Dodd-Frank Act

The objectives of the Bureau are listed in section 1021(b) of the Dodd-Frank Act.[320]

A.3.1 Consumers are provided with timely and understandable information to make responsible decisions about financial transactions.

While HMDA data is made available to the public and public officials, the HMDA Rule was not primarily intended to provide consumers with information to make decisions about financial transactions, or to otherwise inform them about the features and types of financial transactions they may engage in. In response to its request for information, the Bureau did not receive any data or factual information about the HMDA Rule's effectiveness in furthering this Bureau objective, nor do information and data the Bureau obtained and generated in conducting this voluntary review provide a basis for the assessing the HMDA Rule's impact on the objective.

The 2015 HMDA Final Rule additionally requires that financial institutions that reported for the preceding calendar year at least 60,000 covered loans and applications combined, excluding purchased covered loans, also submit their data during the following calendar year to the appropriate Federal agency on a quarterly basis. In promulgating the 2015 rule, the Bureau stated that quarterly reporting would provide regulators with more timely data, which would be of significant value for HMDA and market monitoring processes.[321] Consumers may also find value in access to timelier information to make decisions about financial transactions. However, the Bureau did not receive any data or factual information related to benefits to consumers in their financial decisions from quarterly reporting requirements.[322]

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[320] 12 U.S.C. 5511(b).

[321] 2015 HMDA Final Rule.

[322] In a joint comment letter, consumer groups, civil rights groups, and other organizations recommended that the Bureau make data reported quarterly immediately available to the public. They expressed that this would allow for a more real-time analysis of trends in market access and pricing and enable quicker action to address concerning trends for traditionally underserved populations. *See* Appendix B of this report for additional information.

A.3.2 Consumers are protected from unfair, deceptive, or abusive acts and practices and from discrimination.

While the public disclosure goals of the HMDA Rule do not explicitly include protecting consumers from unfair, deceptive, or abusive acts and practices or from discrimination, many of the requirements of the HMDA Rule might help identify, prevent or deter such acts or practices or discrimination. In the aftermath of the financial crisis that began in 2007, Congress expressed concerns about the lending practices of nondepository institutions generally and called for greater oversight of those institutions.[323] In the Dodd-Frank Act, Congress granted Federal supervisory authority to the Bureau over a broad range of mortgage-related nondepository institutions because it was concerned about nondepository institutions' practices generally and believed that the lack of Federal supervision of those institutions had contributed to the financial crisis.[324] Making reporting thresholds the same across institution types ensured more equal visibility into the practices of nondepository institutions and depository institutions. In addition, with expanded institutional coverage of nondepository institutions, the Bureau previously stated that the public and public officials will be better able to protect consumers because historically, some riskier lending practices, such as those that led to the financial crisis, have emerged from the nondepository sector.[325]

The addition of certain data fields in the new HMDA data was also intended to further this Bureau objective. The Bureau stated in the 2015 HMDA Final Rule that the additional data points financial institutions were required to report would improve the processes used to identify possible discriminatory lending patterns and enforce antidiscrimination statutes. Financial regulators and enforcement agencies use HMDA data in their initial prioritization and screening processes to select institutions for examination and as the base dataset during fair lending reviews. Many of the new HMDA data points capture legitimate factors that financial institutions use in underwriting and pricing that were previously lacking in the HMDA data, and they are intended to help regulators and government enforcement agencies to better understand disparities in outcomes. The Bureau believed that the additional data would allow for improved segmentations during these analyses, so that applications are compared to other applications for

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[323] 2015 HMDA Final Rule. *See*, *e.g.*, House Consideration of H.R. 4173, 155 Cong. Rec. (2009) (statement of Rep. Ellison), "One of the most important causes of the financial crisis, as I mentioned, is the utter failure of consumer protection. The most abusive and predatory lenders were not federally regulated, were not regulated at all in some cases, while regulation was overly lax for banks and other institutions that were covered."); *See* U.S. Gov't Accountability Off., GAO–09–704, *Fair Lending: Data Limitations and the Fragmented U.S. Financial Regulatory Structure Challenge Federal Oversight and Enforcement Efforts* at 28–29 (July 2009), http://www.gao.gov/new.items/d09704.pdf.

[324] Section 1094 of the Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. 111-203, 124 Stat. 1376, 2097 (2010).

[325] HMDA Final Rule.

similar products. In addition, the Bureau stated that the new HMDA data points on pricing would greatly improve the usefulness of HMDA data for assessing pricing outcomes during fair lending analyses. Further, the Bureau stated that the addition of the age data field would allow users to analyze outcomes for different age groups during fair lending analyses. Older individuals, in particular, are potentially at a higher risk of age discrimination, as well as unfair, deceptive, or abusive acts or practices. The addition of the age data field would allow users to identify potential differential treatment of older Americans for various mortgage products. Similarly, the new disaggregate racial and ethnic data provide insights into treatment of sub-populations that were not possible prior to the HMDA Rule. Finally, several of the new data points, such as credit score, CLTV and DTI, help users better understand disparities in underwriting and pricing outcomes.

As mentioned above, Chapter 4 covers topic areas on new or revised data points. This chapter presents changes to the data points implemented by the 2015 HMDA Final Rule. It then discusses how these new and revised data points were generally reported, certain patterns that they reveal, and how the patterns revealed can help further the HMDA purposes as initially envisioned by the 2015 rule. Chapter 4, section 4.2.3, also explores how the new or revised HMDA data points contribute to predicting underwriting and pricing outcomes. We examine the contribution of borrower credit-related characteristics in estimating a generic underwriting model. The main goal of the analysis is to explore the relative importance of the new data points in predicting outcomes. We conduct a goodness of fit test for a full underwriting model as well as for a nested model that drops one of the new data points. Chapter 5 evaluates how federal agencies, community groups and other external stakeholders to the Bureau use the HMDA data in fulfilling their statutory requirements. For instance, the HMDA data are crucial for federal agencies conducting Community Reinvestment Act exams. These exams evaluate an institution's performance in serving its entire service area, including a review of mortgages, small business lending, and bank branching patterns. A consumer advocacy organization has commented that the new and revised demographic data points allow better monitoring of abusive lending in underserved communities.[326] See Chapter 4, Chapter 5 and Appendix B for additional discussion.

[326] Response to RFI (Jan. 21, 2022), https://www.regulations.gov/comment/CFPB-2021-0018-0027.

A.3.3 Outdated, unnecessary, or unduly burdensome regulations are regularly identified and addressed in order to reduce unwarranted regulatory burdens.

The Bureau amended the 2015 HMDA Final Rule several times before and after its effective date to address important questions by industry, consumer advocacy groups, and other stakeholders. For example, the 2015 rule set the closed-end threshold at 25 loans in each of the two preceding calendar years, and the open-end threshold at 100 open-end lines of credit in each of the two preceding calendar years. In 2017, before those thresholds took effect, the Bureau temporarily increased the open-end threshold to 500 open-end lines of credit for two years. In 2019, the Bureau extended to January 1, 2022, the temporary threshold of 500 open-end lines of credit for open-end coverage. In 2020, the Bureau permanently adjusted coverage thresholds for closed-end mortgage loans and open-end lines of credit to 100 and 200, respectively.[327] Another development since the 2015 HMDA Final Rule is the enactment of Economic Growth, Regulatory Relief, and Consumer Protection Act (EGRRCPA), which created partial exemptions from HMDA's requirements that certain insured depository institutions and insured credit unions may now use.[328] In August 2018, the Bureau issued the 2018 HMDA Rule to implement and clarify the requirements of section 104(a) of the EGRRCPA.[329]

Overall, although the Bureau undertook each of the measures listed above in part to avoid or reduce regulatory burden, the Bureau did not obtain or generate data in this review that would allow it to estimate the decreased burden associated with the HMDA amendments individually or collectively. In adopting the original threshold of 25 closed-end mortgage loans in the 2015 HMDA Final Rule, the Bureau stated that it believed that the institutional coverage criteria should balance the burden on financial institutions of reporting HMDA data against the value of the data reported and that a threshold should be set that did not impair HMDA's ability to achieve its purposes but also did not impose burden on institutions if their data are of limited value. However, after issuing the 2015 HMDA Final Rule and the 2017 HMDA Final Rule, the Bureau heard concerns that lower-volume institutions continue to experience significant burden

[327] As noted above, the increase in the closed-end threshold was effective July 1, 2020, and the increased permanent open-end coverage threshold was effective January 1, 2022, upon the expiration of the temporary threshold extended by the 2019 HMDA Final Rule.

[328] Pub. L. 115-174, 132 Stat. 1296 (2018).

[329] 83 FR 45325 (Sept. 7, 2018).

with the threshold set at 25 closed-end mortgage loans.[330] In light of concerns expressed by industry stakeholders regarding the considerable burden associated with reporting the new data points of closed-end mortgage loans required by the 2015 HMDA Final Rule, the Bureau increased the threshold for closed-end data to 100 in the 2020 HMDA Final Rule to provide meaningful burden relief for lower-volume depository institutions while maintaining reporting sufficient to achieve HMDA's purposes.

As noted in the 2015 HMDA Final Rule, in expanding coverage to include mandatory reporting of open-end lines of credit, the Bureau recognized that doing so would impose one-time and ongoing operational costs on reporting institutions, that the one-time costs of modifying processes and systems and training staff to begin open-end line of credit reporting likely would impose significant costs on some institutions, and that institutions' ongoing reporting costs would increase as a function of their open-end lending volume.[331] Drawing on a series of ongoing and one-time cost analyses, the Bureau decided in the 2015 HMDA Final Rule to establish an open-end reporting threshold that would require institutions that originate 100 or more open-end lines of credit in each of the two preceding calendar years to report data on such lines of credit. The Bureau believed that this threshold appropriately balanced the benefits and burdens of covering institutions based on their open-end mortgage lending.[332]

The Bureau stated in the May 2019 Proposal that several developments since the Bureau issued the 2015 HMDA Final Rule have affected the Bureau's analyses of the costs and benefits associated with the open-end threshold.[333] The EGRRCPA also changed the costs and benefits associated with different coverage thresholds, as the partial exemptions are available to most of the depository financial institutions that originate fewer than 500 open-end lines of credit

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330 The Bureau temporarily raised the threshold for open-end lines of credit in the 2017 HMDA Rule because of concerns based on new information that the estimates the Bureau used in the 2015 HMDA Rule may have understated the burden that open-end reporting would impose on smaller institutions if they were required to begin reporting on January 1, 2018. However, the Bureau declined to raise the threshold for closed-end mortgage loans at that time and stated that, in developing the 2015 HMDA Rule, it had robust data to make a determination about the number of transactions that would be reported at the threshold of 25 closed-end mortgage loans as well as the one-time and ongoing costs to industry. 82 FR 43088, 43095-96 (Sept. 13, 2017).

331 2015 HMDA Final Rule at 66160-61.

332 *Id.* at 66218, 66162, 66281.

333 As explained in the 2020 HMDA Final Rule, the estimates the Bureau used in the 2015 HMDA Rule may understate the burden that open-end reporting would impose on smaller institutions if they were required to begin reporting on January 1, 2022. For example, in developing the one-time cost estimates for open-end lines of credit in the 2015 HMDA Rule, the Bureau had envisioned that there would be cost sharing between the line of business that conducts open-end lending and the line of business that conducts closed-end lending at the corporate level, as the implementation of open-end reporting that became mandatory under the 2015 HMDA Rule would coincide with the implementation of the changes to closed-end reporting under the 2015 HMDA Rule. However, this type of cost sharing is less likely now since financial institutions have already implemented almost all of the closed-end reporting changes required under the 2015 HMDA Rule (2020 HMDA Final Rule at 28378).

annually.[334] The Bureau considered the appropriate permanent open-end threshold considering these developments and the comments received in response to the May 2019 Proposal and the July 2019 Reopening Notice.[335] The Bureau determined in the 2020 HMDA Final Rule that the permanent threshold of 200 open-end lines of credit provides sufficient information on open-end lending to serve HMDA's purposes while appropriately reducing one-time and ongoing costs for smaller institutions that would be incurred if the threshold of 100 open-end lines of credit were to take effect.

Note that, for this report, the Bureau also examined certain elements of the HMDA Rule where questions have been raised, for instance, about the burden imposed on industry relative to the benefits. Chapter 4 includes a detailed discussion of how the new required data points and changes to existing data points implemented by the 2015 HMDA Final Rule helped further the HMDA purposes as initially envisioned by the 2015 rule. Chapter 5 includes information on the specific benefits of the new data and disclosure requirements, providing a broad overview of use of the HMDA data as well as the types of users. Chapter 6, section 6.3, reviews the Bureau's cost estimates for representative financial institutions from the HMDA Rule. We provide cost estimates for closed-end reporters, open-end reporters and for financial institutions with partial exemptions. The Bureau also engaged in limited outreach with HMDA reporters to understand better the economic impacts of the HMDA Rule. Compliance cost estimates per loan application reported to the Bureau as part of this industry outreach for this voluntary review were similar to the estimates reached by the Bureau and reported in Chapter 6.

Another important consideration during the Bureau's rulemaking process in the 2015 HMDA Final Rule was the alignment of data fields to then-existing regulations or industry data standards. Chapter, section 6.3.1 provides an overview of the process used by the Bureau in the 2015 rulemaking process to develop the alignment. In promulgating the 2015 rule, the Bureau believed that aligning the requirements of Regulation C to existing industry standards for collecting and transmitting data on mortgage loans and applications would reduce the burden associated with Regulation C compliance and data submission for some institutions.[336] In addition, promoting consistent standards for both industry and regulatory use would have benefits for market efficiency, market understanding and market oversight. The Bureau noted at the time that the efficiencies achieved by such an alignment should grow over time, as the industry moved toward common data standard platforms.[337] Specific to small entities, outreach efforts at the time of the 2015 rule determined that aligning industry data standards would

[334] 2020 HMDA Final Rule.

[335] Id.

[336] 2015 HMDA Final Rule.

[337] *Id.*

reduce costs for training and researching questions. Chapter 6, section 6.4, reports aggregate operational cost estimates.

A.3.4 Federal consumer financial law is enforced consistently, without regard to the status of a person as a depository institution, in order to promote fair competition.

The specific goals of the HMDA Rule do not explicitly include whether Federal consumer financial law is enforced consistently without regard to status as a depository or nondepository institution.

As noted previously, the HMDA Rule imposes data collection, reporting, and disclosure requirements on certain depository institutions and for-profit nondepository institutions. The Bureau issued the 2015 HMDA Final Rule and subsequent amendments pursuant to the authority granted by the Dodd-Frank Act and HMDA. The Bureau adopted uniform loan-volume thresholds for depository and non-depository institutions. The 2015 HMDA Final rule also included a separate test to ensure that covered institutions that meet only the closed-end loan threshold are not required to report their open-end lending, and that covered institutions that meet only the open-end line of credit threshold are not required to report their closed-end lending.

In addition, the final rule retains the prior institutional coverage criteria for depository institutions, which required reporting by depository institutions that satisfy an asset-size threshold, have a branch or home office in a Metropolitan Statistical Area (MSA) on the preceding December 31, satisfy the prior federally related test, and originated at least one first-lien home purchase loan or refinancing secured by one- to four-unit dwelling in the previous calendar year. For nondepository institutions, the final HMDA Rule replaced the prior loan-volume or loan-amount test with the loan-volume thresholds discussed above and removed the prior asset-size or loan-volume threshold but retained the prior criterion that the institution have a branch or home office on an MSA on the preceding December 31.[338]

[338] There are statutory differences in the requirements for depository and non-depository institutions. Depository institutions include banks, savings associations, and credit unions. Under the HMDA statute, depository institutions must report if they meet location and asset-size requirements and make federally related mortgage loans. Non-depository institutions are defined as any person engaged for profit in the business of mortgage lending other than a bank, savings association, or credit union, and they must report if they meet a location test similar to the one that applies to depository institutions (2015 HMDA Final Rule).

The Bureau has enforcement authority with respect to nondepository mortgage originators[339] and depositories with assets over $10 billion,[340] and the prudential regulators have enforcement authority with respect to smaller depositories.

The Bureau has supervisory authority concerning depositories with assets over $10 billion[341] and non-depositories engaged in residential mortgage lending.[342] As discussed in Chapter 5, the Bureau can initiate supervisory events or enforcement actions based on findings from statistical analysis and examiners' file reviews.

A.3.5 Markets for consumer financial products and services operate transparently and efficiently to facilitate access and innovation.

Potential effects of the HMDA Rule on transparency are discussed above in Section A.2.2. Section A.2.1 of this appendix summarizes the Report's evidence regarding access. The Bureau does not have sufficient evidence to conclude whether the HMDA Rule facilitated or otherwise affected innovation.[343]

Generally speaking, a market is made more efficient if someone in a market is made better off without harming any others in the market. Thus, two ways in which a market can be made more efficient are if firms' costs are reduced or if consumers' benefits are increased, all else equal. Conversely, if firms' costs increase, or if consumers' benefits are reduced, then the market is made less efficient, all else equal. As described above in section A.3.3, the Bureau issued the 2015 HMDA Final Rule and subsequent amendments in part to reduce unwarranted regulatory burdens.

If these efforts were successful, then the HMDA Rule increased the efficiency of the market by reducing firms' operating costs through the policy decisions that reduced regulatory burden. Chapter 6 of this report assesses the HMDA Rule's effects on financial institution's compliance

339 For enforcement authority of non-depositories, see 12 U.S.C. 5514(c).

340 For enforcement authority of depositories, see 12 U.S.C. 5515(c).

341 For supervisory authority of depositories, see 12 U.S.C. 5515(a)-(b).

342 For supervisory authority of non-depositories, see 12 U.S.C. 5514(a)(1)(A).

343 At least one commenter mentioned HMDA in relation to facilitating innovation. As discussed in Appendix B, a mortgage data science company stated its view that the reliable aggregation and dissemination of the HMDA data has catalyzed innovation in both the public and private sectors. However, another commenter stated its view that the Bureau has made it more difficult for the public to access and use the data that fulfill HMDA's purposes.

costs incurred from HMDA reporting. Although as described in Chapter 1 of this report, it is difficult to establish clear effects of the HMDA Rule. As discussed in Chapter 6, the Rule does appear to have created new costs for financial institutions originating closed-end mortgage loans and open-end lines of credit. The Bureau predicted, and this review has verified, that the bulk of the imposed costs from the HMDA Rule were one-time and not ongoing costs. In this sense, the market may be operating less efficiently than it would in the absence of requirements advancing other goals, purposes, and objectives of HMDA and title X of the Dodd-Frank Act.

Chapter 4 discusses how the new and revised data points implemented by the 2015 HMDA Final Rule have provided meaningful data that can further HMDA's purposes. Chapter 5 further describes the benefits of the new data in the HMDA Rule and its disclosure requirements. As discussed above, the HMDA Rule appears to have benefited the public and public officials, potentially increasing visibility into the mortgage market and improving the ability of regulators to identify discrimination and better target investment into communities. In this sense, the market may be operating more efficiently.

APPENDIX B: COMMENT SUMMARY

B.1 Introduction

On November 22, 2021, the Bureau published a request for information (RFI) on the HMDA Rule assessment in the *Federal Register* and invited the public to submit comments and information on a variety of topics. The public comment period closed on January 21, 2022. The Bureau received approximately 40 comments in response to the RFI. The Bureau summarizes the comments and information received on certain topics below, and the full comments are available on www.regulations.gov.[344]

B.2 Assessment plan comments[345]

B.2.1 Scope, feasibility, and effectiveness of the assessment plan

Several commenters expressed their overall support for the Bureau's decision to conduct a voluntary assessment of the HMDA Rule. In a joint comment letter, several national trade associations representing banks stated that Regulation C is very important to all mortgage stakeholders and that policymakers, mortgage industry participants, and the public would benefit from a careful assessment of the HMDA Rule. These commenters expressed support for the Bureau's statement in the November 2021 RFI that the assessment is an opportunity to evaluate whether prior HMDA rulemakings have improved upon the data collected, reduced unnecessary burden, and streamlined and modernized the manner in which financial institutions collect and report HMDA data. They also expressed support for the Bureau's intention to review the benefits, costs, and impacts that its regulations have on all mortgage

344 *See* comments to 86 FR 66220 (Nov. 22, 2021), https://regulations.gov/docket/CFPB-2021-0018. As stated in the RFI, the Bureau is not responding to each comment received pursuant to the RFI. ("The Bureau plans to consider relevant comments and other information received as it conducts the assessment and prepares an assessment report. The Bureau does not, however, expect that it will respond to each comment received pursuant to this document in the assessment report. Furthermore, the Bureau does not anticipate that the assessment report will include specific proposals by the Bureau to modify any rules, although the findings made in the assessment will help to inform the Bureau's general understanding of implementation costs and regulatory benefits for future rulemakings.") The Bureau has considered any evidence offered by commenters in performing this voluntary review.

345 As noted above, the relevant comments were broadly consistent with the relevant topic areas described in the November 2021 RFI, so the research questions addressed by this review are substantially similar to those topics posed in the November 2021 RFI. *See also* Chapter 1, section 1.2.

credit stakeholders. A trade association representing banks that expressed support for the voluntary assessment stated that it appreciated the Bureau gathering metrics and data as part of its preparation of the report.

A consortium comprised of over 200 fair housing and civil rights organizations expressed strong support for the Bureau's decision to seek public comment on the HMDA Rule through the voluntary assessment. These commenters stated that the many changes made to the rule in recent years and the significant impact they have had on the structure and availability of the data make such a review advisable. A consumer group commenter stated that the assessment would demonstrate that the increase in reporting thresholds contravenes HMDA's purposes of identifying and eliminating discriminatory lending practices.

Several commenters made recommendations regarding the scope of the Bureau's assessment plan. One large financial institution stated that the HMDA Rule is a significant rule and requires an assessment and report under the DFA rather than a voluntary assessment. This commenter stated that the additional data points that have been added to HMDA over the years support the Bureau conducting a DFA assessment to understand the benefits and drawbacks of each data point. This commenter also urged the Bureau to include in the assessment an evaluation of the balancing test used to determine whether and how HMDA data should be modified prior to its public disclosure to provide more insight into the decisions regarding the public disclosure of HMDA data.

In a joint comment letter submitted by over 50 consumer groups, civil rights groups, and other organizations, commenters stated that the assessment report should include a detailed analysis of the EGRRCPA's impact on the HMDA Rule. They expressed that such an evaluation will likely show the significant and detrimental impact of the EGRRCPA on the statutory purposes of HMDA and that the report should include recommendations to Congress regarding the EGRRCPA's HMDA provisions, such as recission or modification.

A national trade association representing credit unions stated that the Bureau should focus on the effects of the rule on small lenders. It recommended the Bureau carefully consider the true costs of the rule for smaller lenders and the benefits associated with tailored exemptions for smaller or less complex mortgage lenders wherever possible. This commenter also stated that, in past rulemakings, the Bureau has offered little discussion on how it considered the findings of Small Business Regulatory Enforcement Fairness Act (SBREFA) panels in its rulemaking process. It urged the Bureau to revisit the SBREFA panel findings related to the HMDA Rule, evaluate how completely they were considered during the rulemaking, and further reconsider these findings as part of the assessment. A few credit unions requested that the Bureau assess whether the required reporting of open-end lines of credit fulfills any statutory goals of HMDA.

B.2.2 Rule objectives to use in the assessment

In a joint comment letter, several national trade associations representing banks expressed general agreement with the Bureau's statements regarding the goals of the HMDA Rule and recommended the Bureau focus its evaluation on certain impacts of the HMDA Rule. These commenters stated that section 1021 of the DFA provides that the Bureau shall seek to implement Federal consumer financial law consistently for the purposes of ensuring that all consumers have access to markets for consumer financial products and services and that markets for consumer financial products and services are fair, transparent, and competitive. These commenters described the statutory purposes of HMDA and stated that the goals of the HMDA Rule were to implement the DFA amendments to HMDA, better achieve HMDA's purposes in light of current market conditions, and reduce unnecessary burden on financial institutions. They noted that the Bureau stated in the 2015 HMDA Final Rule that HMDA data reporting requirements needed to be updated to address gaps in the data regarding certain segments of the market. Considering these elements, they asserted that the assessment should evaluate the HMDA Rule's impact on consumer protection, the availability of credit and the pricing of credit, and whether the rule imposes undue burdens on financial institutions. They stated further that the Bureau should weigh possible alternatives that could meet the goals of HMDA and title X while reducing burden on financial institutions.

B.2.3 Outcomes, metrics, baselines, and analytical methods for assessing

A national trade association representing credit unions discussed the different institutional and transactional coverage thresholds that have been in effect since the issuance of the 2015 HMDA Final Rule. It stated that the current thresholds have only been in place for a short period of time and that the Bureau has no available data or reporting completed under the current thresholds to evaluate. This commenter urged the Bureau to dedicate its assessment of institutional and transactional coverage solely to identifying specific analyses or benchmarks which it might use to adjust the thresholds in the future. It stated that the Bureau should then allow for multiple years of reporting at the current thresholds to generate data to which those analyses and benchmarks can be applied, which would provide the Bureau data to generate stronger arguments for the appropriate levels of the thresholds.

B.3 General comments about the HMDA Rule

B.3.1 Effectiveness

Regarding the overall effectiveness of the HMDA Rule, consumer groups, civil rights groups, and other organizations expressed support for the data required by the HMDA Rule.[346] In a joint comment letter, many of these groups discussed the DFA data points Congress added to HMDA which the Bureau implemented in the HMDA Rule) as well as the new data points adopted pursuant to the Bureau's discretionary authority. They stated that these data points were added to the HMDA Rule in direct response to the financial crisis and remain critical in monitoring and preventing abuses in the lending marketplace. These commenters stated that Congress' DFA amendments to HMDA and the Bureau's implementation of those amendments enhanced the ability of HMDA to meet its statutory purposes. They stated that, for example, in response to the widespread abuses in the market afflicting older adults, Congress required that age be reported, and the Bureau further enhanced the data by adding a reverse mortgage flag. These groups also stated that, given the importance of affordable rental housing, the HMDA Rule's improvements to data reported on multifamily loans furthers HMDA's purposes by helping stakeholders determine whether the public and private sectors, working together, have increased communities' affordable housing stock. In addition, these groups stated that the disaggregated race and ethnicity data will be extremely valuable for fair lending enforcement and discussed recent research that utilizes this more detailed data to demonstrate lending disparities.

A non-profit housing association stated that many of the changes to HMDA stemming from the DFA have improved its usefulness. It stated that, as an example, more information on manufactured housing improves understanding of a common, yet often unnoticed, form of affordable housing in many rural areas. This commenter also stated that the shift to determining coverage of HMDA loans based on how a loan is secured rather than on its stated purpose promotes clarity and reduced confusion.

A national trade association representing private mortgage insurers stated that the HMDA Rule's expansion of data reporting requirements after the DFA provides benefits to policymakers, the public, and the housing finance system that outweigh the incremental costs associated with compliance. This commenter stated that it supports the additional data required by the HMDA Rule because of the value this data provides in understanding lending trends and

[346] As noted in Chapter 1, the 2015 HMDA Rule and related amendments are referred to collectively as "the HMDA Rule."

in promoting affordable and sustainable access to housing. It expressed that the additional transparency brought about by this data could enable greater collaboration between regulatory agencies and industry participants in monitoring origination trends, analyzing the mortgage market, and developing products to promote equitable access to housing finance.

A mortgage data science company stated that HMDA has been very successful in meeting its three enumerated purposes, particularly with the additional data points required under the HMDA Rule. It added its view that the reliable aggregation and dissemination of the HMDA data has catalyzed innovation in both the public and private sectors.

A national trade association representing credit unions stated that the data required under the HMDA Rule has brought greater transparency to the mortgage market and that the reporting of certain required data may be one of the most effective ways to help detect and prevent fair lending violations. It stated that many of its members use HMDA data to analyze trends, denials, lending in certain geographies, and to compare their data to the national HMDA dataset. Another trade association representing community banks stated that the data points specifically added by the DFA, coupled with the pre-existing data points, were sufficient to detect fair lending violations and analyze whether banks were meeting the needs of their communities.

Although outside the scope of the assessment, several commenters, including consumer and civil rights groups and software vendors, stated that changes to the way the data is disseminated—such as additional summary tables and improved clarity and labeling on the website—would increase the HMDA Rule's effectiveness by making the data more easily accessible.

B.3.2 Costs

Many industry commenters expressed general concern with the burden associated with the HMDA Rule. The trade association noted above that represents credit unions and discussed the transparency provided by the HMDA data also stated that, despite the value of some HMDA data, the operational and compliance costs associated with the HMDA Rule outweigh the benefits for credit unions. Another national trade association representing credit unions stated that its members have reported significant compliance and operational burden relating to the data points added or revised by the HMDA Rule. One trade association representing credit unions stated that, in a 2021 survey of its members, over 52% of respondents noted an increase in regulatory burden associated with HMDA in the last five years. Several national trade associations stated that complying with HMDA requires specialized staffing, extensive training, and dedicated software systems.

Multiple national trade associations discussed the effects of the compliance costs on smaller lenders' lending practices. One of these commenters stated that the HMDA Rule has disproportionately burdened credit unions. It stated that, while larger entities can afford to absorb the significant costs associated with regulatory compliance, new rules have made it more difficult for credit unions to provide affordable financial services and effectively participate in the mortgage market. Another commenter stated that the significant amount of time spent complying with regulatory requirements, including HMDA, diminishes community banks' ability to maintain economies of scale, support the credit needs of their customers, and serve their communities. In a joint letter, several commenters representing banks stated that, in most cases, smaller-volume institutions near the loan-volume coverage thresholds will manage origination volume to avoid the costs associated with HMDA reporting. These commenters stated that compliance with the HMDA Rule involves many manual processes that are particularly burdensome for smaller institutions that often lack the efficiencies of scale needed to offset these expenses.

A large financial institution expressed disagreement with the Bureau's statement in the November 2021 RFI that the HMDA Rule has not impacted the features or costs of consumer financial products and services. This commenter stated that the HMDA Rule has required smaller lenders to exercise less discretion in their lending activities and caused a decrease in the types of available mortgage products. It stated further that automated "box lending" may be the only financially viable route for community banks to engage in consumer mortgage lending, a process that offers a one-size-fits-all solution that is inappropriate for all borrowers.

Several industry commenters provided quantitative statements of the estimated costs of compliance with the HMDA Rule. One multi-bank financial holding company stated that it cost approximately $100,000 in one-time costs and $150,000 in ongoing costs to comply with the HMDA Rule. It stated that the frequent changes to the required data necessitate constant updates to institutions' compliance processes, which keep ongoing costs high. A small financial institution estimated spending over 80 hours annually collecting and verifying HMDA data in addition to time spent reviewing requirements and working with vendors to implement software changes.

A national trade association representing credit unions stated that its members report significant ongoing costs. It stated that one of its members reported spending nearly $14,000 a year for HMDA software alone and another member reported spending about 400 hours every year to comply with the HMDA Rule. Another trade association representing credit unions stated that an institution's compliance officer may spend up to half their time reporting HMDA data. It added that, with an average compliance officer salary of $75,000, approximately $40,000 is spent annually on labor related to HMDA compliance. A national trade association representing community banks stated that, in a 2019 survey of its members, 50% of respondents reported that annual data collection costs associated with HMDA exceeded $10,000 while 25% of respondents reported that such costs exceeded $25,000.

In a joint comment letter, several national trade associations representing banks provided the results of a member survey conducted in 2019. They stated that nearly two thirds of respondents purchased new software to implement the HMDA Rule, spending an average of $412,874 on that software. They stated that almost half of respondents indicated that, on an ongoing basis, they use dedicated software to report HMDA data, incurring an average annual cost of $88,281. Respondents reported having, on average, between three and six full-time employees (FTE) dedicated to HMDA reporting, depending on the number of HMDA transactions reported annually. 70% of respondents reported adding non-technology FTE, and 35% reported adding technology FTE, to engage in ongoing monitoring of their HMDA data. These commenters stated that their survey results underscore the highly complex nature of the HMDA Rule and the resulting need for specialized staff and dedicated software.

B.4 Specific comments about the HMDA Rule

B.4.1 Institutional coverage and loan volume thresholds

Numerous commenters discussed the institutional coverage criteria set by the HMDA Rule, with many focusing on the loan-volume coverage thresholds. In a joint comment letter, several national trade associations expressed support for the 100-loan closed-end coverage threshold set by the 2020 HMDA Final Rule.[347] They asserted that small lenders are unable to support the high cost of HMDA compliance, moving to this higher threshold results in a limited loss of data, and any need for precise lending data for certain regions could be satisfied by focused studies that would be significantly less expensive than HMDA compliance costs.[348] A national trade association representing credit unions also expressed support for the current thresholds and stated that the institutions that are no longer required to report HMDA data originate smaller volumes of loans, have fewer assets, are more likely to make conventional loans, and are less likely to make loans secured by a principal residence. This commenter, along with several credit

[347] Comments in response to the RFI were submitted before a federal district court vacated the 2020 HMDA Final Rule's increase to the closed-end threshold.

[348] These commenters stated that, while they believed the coverage of open-end transactions should be assessed, they understood that it may be too soon to address properly at this time.

unions, recommended keeping the thresholds steady for multiple years to enable the Bureau to identify trends and make data-based decisions regarding any future threshold adjustments.

One large financial institution recommended raising both the closed-end and open-end coverage thresholds to 500, stating that both thresholds should be set at the same level. It stated that if the Bureau would not raise the coverage thresholds, it should at least make the partial exemptions from reporting certain data points complete exemptions. Another institution near the 100-loan threshold recommended an increase to 500, stating that, if it were to become a HMDA reporter, the software and labor costs it would incur would ultimately be passed on to borrowers in the form of more expensive mortgage loans.

A trade association representing community banks expressed support for the thresholds set in the 2020 HMDA Final Rule—especially noting the relief provided to banks in rural and small markets—but recommended the thresholds be raised further. It stated that higher thresholds would more effectively balance the purposes of the DFA with the limited resources of community banks and that decreasing the thresholds would have a negative impact on small lenders and on consumer access to credit. A small financial institution requested further increases to the thresholds, stating that the significant time it spends compiling and checking data negatively impacts customer service.

Numerous commenters, including consumer groups, civil rights groups, and other organizations, expressed opposition to the increases to the closed- and open-end coverage thresholds finalized in the 2020 HMDA Final Rule. In a joint comment letter, many of these organizations asserted that the higher thresholds undermine HMDA's purposes because many lenders will no longer be required to report HMDA data. They stated that the 25-loan closed-end threshold set by the 2015 HMDA Final Rule had already reduced the number of reporters by 22% when it took effect and that increasing the threshold from 25 to 100 removed thousands of institutions from HMDA's coverage. Pointing to the Bureau's cost estimates from the 2020 HMDA Final Rule, these commenters stated that the savings of a few thousand dollars for lenders no longer required to report HMDA data does not justify the resulting loss in transparency and accountability.

Many consumer group commenters stated that HMDA data is used to demonstrate the targeting of people and communities of color for predatory loans and that the decrease in HMDA's coverage will make fair lending enforcement more difficult. These organizations also stated that Community Reinvestment Act (CRA) enforcement will become more difficult as community groups and examiners will no longer be able to use HMDA data to hold banks accountable for serving low-to-moderate income (LMI) borrowers.

Commenters also stated that the higher thresholds will jeopardize HMDA's statutory purpose of assessing whether institutions are meeting credit and housing needs in the communities they serve. Many consumer and civil rights groups stated that, at the higher closed-end threshold, approximately 5% of counties nationwide—nearly 60% of them rural—will experience a decrease of more than 10% of applications reported under HMDA. They stated further that, nationwide, over 10% of counties would lose at least 7% of reported applications and over 13% of counties would lose at least 6% of applications. A consortium comprised of a large number of fair housing and civil rights organizations stated that HMDA data from lenders of all sizes is used to understand local markets and that the loss of data from smaller lenders that may play a significant role in a particular community will leave a gap in these analyses.

Many commenters, including several consumer groups, civil rights groups, and housing organizations, stated that setting the closed-end threshold at 100 will have a disproportionate effect on the data available in rural and LMI areas. One commenter stated that, while the overall amount of affected data may be small, rural and lower-income communities that are already underserved and underreported will experience the greatest impact. Another commenter stated that HMDA data is critical for understanding how lending contributes to the widening wealth gap and that without robust HMDA reporting, patterns of discriminatory and uneven lending practices will go undetected. One commenter that urged the Bureau to return to the 25-loan closed-end coverage threshold stated that the higher coverage threshold had significantly reduced HMDA data available for rural areas, which already may have had more limited HMDA data because they are located outside of metropolitan statistical areas (MSAs).

Although the open-end coverage threshold set by the 2020 HMDA Final Rule is outside the scope of this assessment, in a joint comment letter many community groups, civil rights groups, and other organizations expressed opposition to the increase in this threshold from 100 to 200. These commenters stated that open-end lending had been abusive prior to the financial crisis and that recent Bureau research demonstrated that open-end lending continues to be riskier than closed-end lending. They stated that the recent increase in open-end lending supports subjecting more lenders and loans to HMDA visibility through a return to the 100-loan open-end threshold.

Regarding the other institutional coverage criteria, in a joint letter community groups, civil rights groups, and other organizations recommended that the Bureau change the requirement that depository institutions make at least one single-family loan for home purchase or refinancing to be covered by HMDA. These commenters stated that multifamily lenders often make no single-family loans and that lenders excluded from HMDA reporting by this criterion could still be major lenders in their geographic areas and finance housing for thousands of tenants.

A trade association representing credit unions recommended raising the asset-size threshold from $50 million to $500 million. It stated that HMDA's coverage is too broad and results in the reporting of unnecessary data. A trade association representing private lenders recommended the asset threshold be raised to $200 million.

Although this recommendation would require statutory changes to HMDA's coverage criteria and thus is outside the scope of the Bureau's HMDA rulemaking authority, a mortgage analytics company stated that institutional coverage should be expanded to include all lenders. It stated that it could only analyze the coverage, effectiveness, and fairness of lending activities for which it had data, and that such data would ideally include all mortgage transactions regardless of lender size or other characteristics. A software vendor stated that Congress should amend HMDA to remove the MSA criterion from the institutional coverage test, stating that homelessness and housing insecurity are not only problems in metro areas and that the HMDA data should be relevant for consumers in all areas of the country.

B.4.2 Transactional coverage

Several industry commenters expressed concerns regarding the costs and benefits associated with reporting open-end lines of credit under the HMDA Rule. A national trade association and several credit unions stated that HELOCs are often originated and serviced in consumer loan systems that may be used for other revolving credit products or unsecured loan products rather than in the loan origination systems used to originate and service closed-end mortgages. This commenter stated that these consumer loan systems are not designed for HMDA reporting and that many credit unions report dedicating disproportionate staff time to collecting and reporting open-end data. In a joint comment letter, several national trade associations recommended eliminating the required reporting of open-end lines of credit and stated that the burden of collecting and reporting such data was significant and this data did not provide meaningful information to further HMDA's purposes. On the other hand, in a joint comment letter many community groups, civil rights groups, and other organizations expressed support for required reporting of open-end lines of credit.

A number of industry commenters stated that the Bureau should reduce or eliminate the HMDA Rule's coverage of business- or commercial-purpose loans. One trade association representing commercial lenders urged the Bureau to exempt from HMDA multifamily loans made to a business, stating that reporting these loans imposes a significant burden without furthering HMDA's purposes. It expressed that data on multifamily properties cannot be used to identify potential discriminatory lending patterns and provides limited information on housing availability or affordability of rental units. This commenter and another trade association representing banks stated that CRA reporting and supervisory activities are sufficient to ensure that multifamily lenders are meeting their obligation to serve their communities. Several other trade associations representing banks and credit unions stated that the minimal value of the multifamily data is demonstrated by the fact that most HMDA data fields are inapplicable to these transactions.

In a joint comment letter, several national trade associations recommended that the Bureau exclude all business- or commercial-purpose loans from HMDA coverage. They stated that the findings of Congress upon which HMDA was enacted concern failures "to provide adequate home financing to qualified applicants on reasonable terms and conditions" and that nothing in HMDA demonstrates an intent to cover business lending. These commenters stated that commercial-purpose loans are structured very differently from residential loans and require lenders to establish separate reporting processes. These commenters and a few other industry commenters also expressed that the HMDA Rule should not cover business- or commercial-purpose loans because of the Bureau's rulemaking requiring reporting of certain small business lending data under section 1071 of the DFA. They stated that excluding business-purpose loans from HMDA would eliminate duplicative reporting without affecting the overall availably of multifamily data.

Conversely, a number of consumer groups, civil rights groups, and other organizations stated that data on multifamily loans plays an important role in serving HMDA's purposes. In a joint comment letter, many of these groups stated that multifamily data fulfills a central purpose of HMDA because, given high housing prices, affordable rental housing is essential. They expressed that the enhancements to data on multifamily lending in the HMDA Rule, including the data points on affordable units, help stakeholders determine if the public and private sectors, working together, have increased the stock of affordable housing in neighborhoods. These groups also stated that, based on the statutory definitions of "mortgage loan" and "residential real property," multifamily data is statutorily required under HMDA and the Bureau does not have the authority to exempt multifamily loans made to non-natural persons.

A consortium comprised of a large number of fair housing and civil rights groups stated that it is very helpful to have information about credit availability for multifamily buildings that contain affordable units. These commenters stated that such data can help identify the extent to which a lender is supporting the development of affordable units in racially segregated areas, is relevant to the duty to serve requirements that apply to the Federal National Mortgage Association (Fannie Mae) and the Federal Home Loan Mortgage Corporation (Freddie Mac) and helps local officials' efforts to further fair housing.

B.4.3 Data points

Commenters provided varying viewpoints on the data points added or revised by the HMDA Rule. Many discussed the new discretionary data points and the revised demographic data required under the HMDA Rule. Several commenters also provided recommendations for other modifications or additions to the data required under Regulation C.

Discretionary Data Points

Several national trade association commenters representing community banks and credit unions recommended removal of all the new data points added by the HMDA Rule pursuant to the Bureau's discretionary authority. One commenter stated that these data points are costly and do not provide a clear benefit for fair lending analysis beyond the pre-existing data points. It specifically recommended that the Bureau remove CLTV ratio, DTI, and the business- or commercial-purpose loan flag, stating that these data points were particularly burdensome. Another commenter recommending the removal of all discretionary data points stated that they do not contribute to HMDA's purposes and that the increased volume of data required under the HMDA Rule necessitates more data scrubbing and testing.

In a joint comment letter, several national trade associations representing banks stated that the burden of collecting, maintaining, and reporting several of the discretionary data points substantially outweighs the benefits of the data. Of the new data points required by the HMDA Rule, these commenters requested that the Bureau specifically eliminate the following: AUS, discount points, lender credits, total units, manufactured home secured property type and land property interest. These commenters also urged the Bureau to remove the free-form text fields added by the HMDA Rule. They stated that it requires a significant number of resources to ensure the free-form text fields are accurate and consistent and that this information, which is not disclosed publicly, provides little benefit in furthering the purposes of HMDA.

As discussed above, in a joint comment letter consumer groups, civil rights groups, and other organizations stated that the data points added to the HMDA Rule pursuant to the Bureau's discretionary authority remain critical to monitoring and preventing abuses in the lending marketplace. These commenters discussed the importance of the multifamily and manufactured home data collected under the HMDA Rule in assessing whether lenders are serving the housing needs of their communities. They expressed that the reverse mortgage flag has brought transparency to the lending marketplace for older adults, which had been filled with predatory lending in the years prior to the financial crisis. They stated that the discretionary data points include loan terms and conditions that were associated with widespread abuses, such as comprehensive pricing and fee information, DTI ratio, LTV ratio, prepayment penalties, and adjustable rates. As an example of the usefulness of the new data points, these commenters cited recent research finding that Black borrowers were denied loans at a higher rate than White borrowers with similar incomes and DTI ratios. These commenters urged the Bureau to require an indicator like DTI be reported for multifamily loans, stating that overleveraged borrowers may be more inclined to displace tenants and neglect building repairs.

A housing organization stated that information on manufactured housing, which represents 13% of all occupied rural units, was limited prior to the HMDA Rule. This commenter stated that the new manufactured housing data points provide greater insight into land ownership, leasing, and the security for the loan, which will lead to better oversight and policies. A software vendor stated that Congress should repeal the EGRRCPA partial exemptions from HMDA reporting for smaller institutions. It stated that data from these institutions is needed to understand rural lending, relationship lending, and other special program lending.

Demographic Data

Numerous industry commenters expressed opposition to the HMDA Rule’s amendments to the race and ethnicity data points, which in general provided for more detailed, disaggregated reporting. Several national trade associations stated that their members find the expanded race and ethnicity data fields to be complex and of little benefit, particularly given the confusion and inconsistencies associated with collecting and reporting the data. They stated that removing the expanded data fields added by the HMDA Rule would reduce burden without impacting HMDA’s objectives. Another trade association expressed that disaggregated data for race and ethnicity are not typically used in redlining or other related analyses, which instead rely on aggregate data to identify possible discriminatory lending. This commenter stated that credit unions report extended application times and applicant discomfort associated with the disaggregated categories, particularly for applications taken over the phone. Another commenter urging the Bureau to eliminate the disaggregated race and ethnicity data fields stated that the Bureau had significantly expanded and complicated these requirements without adequately explaining how these changes would aid in determining the housing needs of a particular community.

Several national and State trade associations also recommended the Bureau remove the requirement that loan originators collect, on the basis of visual observation or surname, the applicant’s race, ethnicity, and sex when an application is taken in person and the applicant does not provide the information. One commenter stated that loan originators should not have to “guess” and that such data may be inaccurate and does not further the purposes of HMDA and instead may provide inaccurate data. Several commenters recommended the Bureau remove this requirement, stating that it puts the loan officer in an awkward position and upsets the applicant with limited corresponding benefit.

A few national trade associations also expressed concern about the option for applicants to use free-form text fields to provide race and ethnicity data. One commenter stated that this option requires additional resources to ensure accuracy as applicants often use these fields incorrectly. Another stated that lenders are required to report whatever the applicant enters, regardless of accuracy or spelling.

In a joint comment letter, consumer groups, civil rights groups, and other organizations expressed support for the HMDA Rule's addition of disaggregated race and ethnicity categories for Asian and Hispanic applicants, stating that this more detailed data will help protect vulnerable groups from predatory lending. As an example, these commenters stated that their research has shown that over half of Puerto Rican borrowers obtained a government-insured loan while overall only a third of Hispanic borrowers obtained such loans. These commenters recommended the Bureau consider adding more detailed categories for African Americans and expressed support for the addition of a Middle Eastern and North African category, consistent with the section 1071 proposed rule. These commenters and others also recommended that the Bureau require reporting of demographic data for purchased loans to fully assess the fair lending records of financial institutions.

Several commenters recommended that the Bureau require additional demographic data to be reported. One national trade association stated that numerous states now permit nonbinary gender to be shown on State-issued identification, but that Regulation C only allows applicants to choose "Male, Female, or I do not wish to provide." This commenter stated that the Bureau should modernize Regulation C by making HMDA categories consistent with State law gender identifications. Numerous consumer groups also urged the Bureau to add gender identity and sexual orientation to Regulation C's reporting requirements. One commenter stated that empirical research published in the University of Chicago Law Review has found widespread mortgage lending discrimination across the United States based on perceived sexual orientation and this commenter expressed that the lack of data on these protected characteristics is a significant flaw in the HMDA Rule. A software vendor recommended that the Bureau work with other agencies to standardize the collection, reporting, and analysis of demographic data. It stated that the Census collects information on gender identity and sexual orientation using three data fields: 1) sex assigned at birth, 2) current gender identification, and 3) sexual orientation.

A number of consumer groups, civil rights groups, and other organizations commented in a joint letter that the Bureau should mandate the collection of data on the disability status of the applicant to better understand and address barriers to credit. These groups also urged the Bureau to require data on the primary language of the borrower, the language spoken to negotiate the loan, and the language of the loan document. They expressed that the Bureau should, at the least, require reporting of whether the applicant has limited English proficiency (LEP). They stated that lending to these borrowers is an important indicator of fair lending and that more data could help localities direct resources to at-risk communities. On the other hand, a software vendor stated that LEP data was not necessary to serve HMDA's purposes and that requiring such data would increase the complexity of the HMDA dataset.

Other Recommendations

This section discusses the comments received that recommend modification, expansion, or elimination of the Rule. As noted in the Request for Information, the findings made in this assessment, and these comments, will help inform the Bureau as to whether to consider commencing rulemaking in the future in relation to the Rule.

One national trade association representing credit unions stated that rate spread can be especially difficult to calculate and urged the Bureau to revise this data point to only apply to fixed-rate loans. It expressed that interest rates for HELOCs are based on the value of the property and that, as a result, rate spread data on these loans does not help to provide a more complete picture of the mortgage market.

A mortgage data science company recommended the Bureau remove the county, MSA, and State data fields, which it stated were redundant and often misaligned, and instead only require reporting of census tract. It recommended further that the Bureau assume responsibility for census tract geocoding to improve data accuracy and address the lag time between when the census tracts are updated every ten years and the incorporation of those new tracts into the HMDA data. This commenter also suggested that, if a lender is acquired during a reporting period, the Bureau should require reporting of 1) the parent company's LEI, 2) the type of acquisition, and 3) the date of acquisition. It noted the significant consolidation of lenders in the industry and stated that such information would improve the analysis of lender performance over time.

One consumer group stated that the HMDA data lacks information that could improve understanding of certain underserved markets, particularly with respect to lending on tribal lands and HUD's Section 184 Home Loan Program. It stated that there is currently no public data that identifies loans made on tribal lands and that such data cannot be garnered from the HMDA data because tribal loans often do not match census tract boundaries. This group also stated that the HMDA data fails to capture USDA section 502 direct loans, which can be a significant source of lending in certain rural communities.

One software vendor stated that the Bureau or FFIEC should require that financial institutions provide identifiers and ownership interest when registering on the HMDA platform, including, for example, parent and top holder names.

B.4.4 Disclosure

Commenters that discussed the HMDA Rule's shifting of public disclosure entirely to the agencies generally focused on how the data is disseminated on the Bureau's website, which is outside the scope of this assessment. One consumer group stated that the Bureau has made it much more difficult for the public to access and use the data that would fulfill HMDA's purpose of identifying possible discriminatory lending and enforcing antidiscrimination statutes. This commenter stated that the Bureau removed some essential features that the FFIEC website offered, for example, the ability to filter HMDA data on more than two variables.

In a joint letter, consumer groups, civil rights groups, and other organizations expressed concern that the Bureau's mapping functions lack the detailed summary tables previously provided by the FFIEC. They stated that, as an example, in contrast to the FFIEC summary tables, the newer CFPB summary tables provide truncated options for cross-tabulations that cannot produce demographic break downs for combinations of loan actions, loan purposes or loan types. They expressed that it is difficult to analyze the loan/application register data because lender names appear in a separate database. They recommended the Bureau add lender name when users download LAR data at the State, MSA, or county level or provide instructions on how to match the lender name more easily with the LAR data. These commenters stated further that the new support resources the Bureau developed were designed for IT professionals and software developers, rather than public users, and that making the data more accessible would further HMDA's purposes. Another commenter suggested the Bureau publish additional resources for data users, including those that would help local leaders manage housing supply. One commenter said the new HMDA Data Browser had improved access to data.

Regarding the HMDA Rule's requirement that larger-volume financial institutions report data quarterly in addition to annually, several national trade associations stated that the burdens of quarterly reporting outweigh the benefits, particularly because such data will not be subject to the rigorous data scrubbing typically completed before the annual submission and will thus likely contain significantly more errors. These groups urged the Bureau to remove the quarterly reporting requirement. In a joint comment letter, consumer groups, civil rights groups, and other organizations recommended that the Bureau make data reported quarterly immediately available to the public. They expressed that this would allow for a more real-time analysis of trends in market access and pricing and enable quicker action to address concerning trends for traditionally underserved populations. Another commenter stated that the quarterly data would have little value if not publicly disclosed.

Although outside the scope of this assessment,[349] several commenters made recommendations regarding the Bureau's balancing test and whether and how HMDA data should be modified prior to its public disclosure. Consumer groups, civil rights groups, housing organizations, software vendors, and other commenters requested that the Bureau release credit score data in some form. Many of these commenters also requested that the Bureau release more specific data

[349] 80 FR 66220 (Nov. 21, 2021).

regarding the number of total units in multifamily dwellings and with respect to the age of the applicant or borrower and release the NMLS ID for mortgage companies and branches. Several organizations commented that the Bureau should do more to eliminate outliers for all data points, and particularly interest rate and rate spread because this data often includes outlier records that complicate the ability to calculate averages. Some commenters stated that the Bureau should disclose publicly the derived values it develops from the HMDA data, for example, APR. A national trade association recommended that the Bureau expand analytical capabilities by publicly releasing additional loan-level data. It stated that releasing more of this detailed data would allow policymakers and housing finance stakeholders to better analyze the interaction between race, mortgage originations, and homeownership.

A software vendor recommended that the Bureau make available, in the HMDA panel, an indicator of whether the institution is a bank, savings association, credit union, or non-depository institution.

APPENDIX C: SOURCES OF DATA AND INFORMATION

As discussed in Chapter 1, the Bureau considered a number of sources of information in conducting the voluntary review of the HMDA Rule. This appendix catalogs the principal internal and external data sources that the Bureau has found most probative and on which the findings in this report are primarily based. The data sources in this appendix are organized into two separate categories: (1) data sources that were available to the Bureau through prior or ongoing work; and (2) data sources collected for the purpose of carrying out this review. Under each data source there will be information as to where the Bureau acquired the data and a description of the data as it relates to this voluntary review.

C.1 Existing data sources

C.1.1 Call Reports

SOURCE

Federal Financial Institutions Examinations Council (FFIEC).[350]

DESCRIPTION

The FFIEC data used in this chapter's analysis include the Consolidated Report of Condition and Income and the Census Flat Files. The FFIEC Consolidated Report of Condition and Income is also known as bank Call Report data.

The FFIEC Call Reports provide quarterly financial information on all banks regulated by the Federal Reserve System, the Federal Deposit Insurance Corporation, and the Office of the Comptroller of the Currency.[351]

The analyses in Chapter 3 rely on FFIEC 031 and 041 forms for the analysis, which contain basic financial data from commercial banks in the form of a balance sheet, an income statement, and

[350] The FFIEC was established on March 10, 1979, pursuant to title X of the Financial Institutions Regulatory and Interest Rate Control Act of 1978 (FIRA), Publ. L. 95-630, tit. X, 92 Stat. 3641, 3694 (1978). It is a formal interagency body that consists of the Board of Governors of the Federal Reserve System (FRB), the Federal Deposit Insurance Corporation (FDIC), the National Credit Union Administration (NCUA), the Office of the Comptroller of the Currency (OCC), and the Consumer Financial Protection Bureau (CFPB). The Council defines uniform principles, standards, and report forms to examine financial institutions, their holding companies, and the nonfinancial subsidiaries and promote uniform supervision of financial institutions.

[351] *See* Fed. Fin. Insts. Examination Council, https://cdr.ffiec.gov/public/ManageFacsimiles.aspx (last visited Nov. 17, 2022).

supporting schedules.[352] Information include total assets, the number of full-time employees, and the total outstanding balance of closed-end mortgages and revolving, open-end lines of credit secured by 1-4 family residential properties. FFIEC Call Report data are the only Call Report data that do not contain information on the number of closed-end mortgages and open-end lines of credit that institutions originated in that year. Chapter 3 discusses how these missing data are addressed in the Methods subsection. The FFIEC Call Report data available to the Bureau also do not contain information for foreign banks. HMDA reporters that are foreign banks are therefore unable to be linked to their call report-based information.

SOURCE

National Credit Union Administration (NCUA)[353].

DESCRIPTION

The NCUA Call Report data are used in Chapter 3. It includes quarterly reported, institution-level data with income and balance sheet information. NCUA Call Report information is used to enumerate the number of credit union branch locations and to identify whether institutions have any branches in a metropolitan area; other NCUA Call Report data provides information on the number and volume of closed-end mortgages and open-end lines of credit originated annually. NCUA Call Report data contain a unique institutional identifier, RSSD, for covered institutions.

C.1.2 Equifax Consumer Credit Trends

SOURCE

Equifax.

DESCRIPTION

The "U.S. National Consumer Credit Trends Report: Originations" is a data tool provided by Equifax. The monthly report is publicly available, using anonymized population-level credit data from the Equifax consumer credit database.

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[352] The 031 form is filed by banks with both domestic and foreign offices or has total consolidated assets of $100 billion or more at the time it becomes FDIC-insured. The 041 form is filed by banks with domestic offices only and if it has total consolidated assets of less than $100 billion at the time it becomes FDIC-insured.

[353] *See* Nat'l Credit Union Admin., *Call Report*, https://www.ncua.gov/analysis/credit-union-corporate-call-report-data/financial-performance-reports (last visited October 13, 2022). The NCUA was created by Congress in 1970 to be an independent federal agency that insures deposits at federally insured credit unions, protects members who own credit unions, and charters and regulates federal credit unions. The NCUA call report data is quarterly financial condition information, available from March 1994.

The data from March 2022 edition are used in conducting analyses in Chapter 3. The data includes annual originations from 2010 through 2021 that were reported as of February 2022. The analysis incorporates the report's estimate of the total count and total volume of open-end lines of credit originations in the market.

C.1.3 Experian-Oliver Wyman Market Intelligence Reports

SOURCE

Experian and Oliver Wyman.

DESCRIPTION

Market Intelligence Reports (MIR) provide insight into quarterly origination and outstanding volumes, as well as credit quality trends across different products by credit score and by geographic region. These reports are available to the CFPB as of paid subscription from Q2 of 2011 until Q2 of 2019, when Experian stopped producing the reports. The reports were updated quarterly. Each update provides data for the past three years and in this report, Chapter 3 analyses use data regarding origination trends for open-end lines of credit.

C.1.4 Summary of Deposits[354]

SOURCE

Federal Deposit Insurance Corporation (FDIC)[355].

DESCRIPTION

The Summary of Deposits (SOD) is an annual survey of branch office deposits as of June 30 for all FDIC-insured institutions, including insured U.S. branches of foreign banks. All institutions with branch offices are required to submit the survey so institutions with only a main office, or unit banks and thrifts, are exempt. However, these unit banks and thrifts are included in the survey results based on the total deposits reported on their annual call report. To ensure

[354] *See* Fed. Deposit Ins. Corp., *Summary of Deposits (SOD) -Annual Survey of Branch Office Deposits,* https://www.fdic.gov/resources/bankers/call-reports/call-summary-of-deposits.html (last updated June 21, 2022).

[355] The FDIC is an independent agency created by Congress to maintain stability and public confidence in the U.S. financial system. The FDIC insures deposits in U.S. bank and thrifts in the event of bank failures. Beyond securing deposits, the FDIC also examines and supervises financial institutions, acting as a regulatory compliance examiner so that banks correctly abide by Federal government policies and serve consumers in a safe and sound capacity.

accurate information and enable comparison, the FDIC recommends that institutions submit FFIEC call report forms prior to submitting the SOD survey.

The SOD was modified in April 2012 and the changes generated more comprehensive data through the addition of new branch-level variables. Chapter 3 analyses make use of the SOD's geographic information for the institutions to determine whether institutions have home or branch offices in metropolitan statical areas (MSAs).

C.1.5 Master Entity Data

SOURCE

Consumer Financial Protection Bureau.

DESCRIPTION

The Master Entity Data (MED) is a directory of depository and non-depository institutions produced by the Bureau. Information on financial institutions is often spread across several sources, so MED aims to produce a single unified identifier that links consolidated institution-level data from different sources. It is updated periodically and contains various identifiers that can be matched to other data sources used in the report such as the RSSD ID and NMLS ID.

The MED data used in this report were accessed as of May 2022.

For Chapter 3 analyses, the MED data facilitated the assigning of RSSD IDs to many nondepository institutions that had not been assigned this identifier in the other datasets in which they appeared. RSSD IDs were the primary means of linking financial institutions to HMDA data and non-HMDA financial information including mortgage origination behavior and assets.

C.1.6 National Information Center – Entity Data

SOURCE

National Information Center (NIC).

DESCRIPTION

The NIC database is a repository of financial data and institution characteristics collected by the Federal Reserve System. It provides information on banks, credit unions, and other institutions for which the Federal Reserve has supervisory, regulatory, or research interest in. This includes both domestic and foreign banking organizations that operate in the U.S.[356]

The database uses the RSSD institutional identifier, which enables the linking of NIC information on institution structure and relationships to information from other financial data sources. The NIC data also contain information on legal institution names, institution headquarters location (city and state), and a flag that indicate whether institutions are federally regulated or insured. Chapter 3 uses the annual NIC data to help assign RSSD IDs to institutions.

C.1.7 National Mortgage Database

SOURCE

Federal Housing Finance Agency (FHFA) and the Consumer Financial Protection Bureau.

DESCRIPTION

The National Mortgage Database (NMDB) is a component of the NMDB program jointly funded by the Federal Housing Finance Agency (FHFA) and the Bureau.[357] The program is designed to provide a rich source of information about the U.S. mortgage market. The NMDB component is a nationally representative, random 1-in-20 sample of first lien, closed-end, residential mortgages made to natural persons[358] in the United States. The data come from credit repositories and include de-identified borrower demographics, loan-level originations, and quarterly performance data. Publication of aggregate data from NMDB is a step toward implementing the statutory requirements of section 1324(c) of the Federal Housing Enterprises Financial Safety and Soundness Act of 1992, as amended by the Housing and Economic Recovery Act of 2008. The statute requires FHFA to conduct a monthly mortgage market survey to collect data on the characteristics of individual mortgages, both Enterprise and non-

[356] *See* Nat'l Info. Ctr., https://www.ffiec.gov/nicpubweb/content/help/NICFAQ.htm#nic (last visited Nov. 17, 2022).

[357] Additional detail on the NMDB is in the *NMDB Technical Report 1: National Mortgage Database Technical Documentation* (Mar. 2020), https://www.fhfa.gov/PolicyProgramsResearch/Programs/Documents/NMDB-Technical-Documentation-20200310.pdf.

[358] NMDB data are sampled from loans made to natural persons and therefore exclude those made to businesses, corporations, and partnerships.

Enterprise, and to make the data available to the public while protecting the privacy of the borrowers.

The NMDB contains an initial sample drawn from outstanding mortgage accounts between January 1998 and June 2012 and is updated quarterly with a random five percent sample of mortgages newly reported to national credit reporting agencies. Critically, the NMDB sampling frame includes loans made by lending institutions not required to report under HMDA.

The database also provides the set of borrowers from which the National Survey of Mortgage Originations (NSMO)[359] respondents are sampled.

Chapter 3 uses the NMDB data as reported through April 2022 to assess HMDA's coverage of first lien, closed-end mortgage originations. Specifically, the analyses involve adjusting for sample probabilities for NMDB originations to estimates the full size of the first lien, closed-end mortgage market in the U.S.

C.1.8 Nationwide Multistate Licensing System & Registry

SOURCE

Nationwide Multistate Licensing System & Registry (NMLS)[360] Entity Data – B2B.

DESCRIPTION

The NMLS was created by the Conference of State Bank Supervisors (CSBS) and the American Association of Residential Mortgage Regulators (AARMR) in 2008 as a system of records for non-depository financial services. These services include state-license companies, branches, and individuals licensed or registered in 66 participating state agencies, including the District of Columbia and U.S. Territories, through NMLS. The NMLS is the official system for those that seek to apply for, revise, renew, and surrender licenses authorities that state or territorial governmental agencies manage, but the NMLS itself does not grant or deny license authority. The NMLS is also the record system for the registration of depositories, subsidiaries of depositories, and mortgage loan originators (MLOs) under the CFPB's Regulation G, which was published in December 2011.

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[359] The NSMO is a quarterly voluntary survey of a representative sample of recent mortgage borrowers about their experiences in choosing and taking out a mortgage. For more detail on the NSMO, *see* Robert B. Avery & Ron Borzekowski, *National Survey of Mortgage Originations,* 12(2) Cityscape 3 (2019).

[360] *See* Nationwide Multistate Licensing & Registry, https://nationwidelicensingsystem.org/Pages/default.aspx, and Nationwide Multistate Licensing & Registry, *NMLS B2B Access*, https://nationwidelicensingsystem.org/about/Pages/NMLSB2BAccess.aspx.

The goal of NMLS is to incorporate local, state-based financial service regulation on a nationwide platform so that regulators improve coordination and information sharing, consumers experience enhanced consumer protection, and the industry increases in efficiency.

In the B2B dataset, Chapter 3 analyses use information regarding the company, the branches of a company, and the state licenses of the branches and companies. Additionally, the NMLS B2B is updated quarterly and over time, entries older than 5 years are phased out of the tables, so Chapter 3 uses the latest report of an institution's active reporting status.[361]

The combined use with the NMLS MCR data for Chapter 3 analyses allows for identification of whether a registered institution in the NMLS database should report HMDA data in each given year based on three requirements. The B2B data helps to investigate the following two requirements: 1) the institution is a for-profit mortgage-lending institution (other than a bank, savings association, or credit union); 2) the institution has a home or branch office in an MSA on the preceding December 31;[362].

SOURCE

Nationwide Multistate Licensing System & Registry (NMLS)[363] Mortgage Call Report (MCR).

DESCRIPTION

The NMLS MCR data are quarterly mortgage call report data from the Conference of Bank Supervisors (CSBS). This dataset contains required reporting of all mortgage-related activities for state-registered mortgage companies registered in NMLS, as deemed by the Secure and Fair Enforcement for Mortgage Licensing Act of 2008 (SAFE Act).

There are two types of MCR filings: the expanded MCR and the standard MCR. Fannie Mae or Freddie Mac sellers/servicers or Ginnie Mae issuers, also known as Government Sponsored

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[361] The most significant limitation of the NMLS dataset is that it lacks an identifier that links the dataset to other relevant datasets used for analysis in the HMDA assessment. With the help of the Master Entity Database (MED), we accessed some information on institutions that included both the RSSD and an NMLSID. These institutions now had an identifier to HMDA. For those institutions that were not in the MED, we manually matched on institutions' names between the NMLS data and the other datasets. This process is discussed in more detail in Chapter 3

[362] The registration status of the institution is used to determine whether locations are considered active and open for years of analysis and information on the exact addresses for branch and headquarter locations to geocode all active locations using ArcGIS software. The geocoded addresses are then combined with information on MSA boundaries to identify whether branches or institution headquarters are in an MSA. The NMLS data for geocoding was extracted on February 18, 2022. The NMLS data is updated monthly, and institutional addresses are always subject to change.

[363] *See* Nationwide Multistate Licensing & Registry, *Mortgage Call Report* (2022), https://mortgage.nationwidelicensingsystem.org/slr/common/mcr/Pages/default.aspx.

Enterprise Approved (GSE-approved) must submit an expanded MCR. All other companies must submit the standard MCR and optionally can file an expanded MCR. All MCR filings contain two components, the Residential Mortgage Loan Activity (RMLA) and Financial Condition (FC). The RMLA component collects information by state regarding applications, closed loans, individual MLOs, lines of credit, servicing and repurchases. The FC component collects information at the company level and does not need to be completed for each state.

Chapter 3 analyses use NMLS MCR data to observe quarterly closed-end mortgage originations and volumes as well as open-end lines of credit originations and volumes for nondepository institutions.

The combined use with the NMLS B2B data for Chapter 3 analyses allows for identification of whether a registered institution in the NMLS database should report HMDA data in each given year based on three requirements. The MCR data helps to investigate the following requirement: the number of MCR-reported closed-end mortgage originations and open-end lines of credit the institution made.

C.2 Data sources collected for this assessment

C.2.1 Consumer Price Index

SOURCE

U.S. Bureau of Labor Statistics (BLS).

DESCRIPTION

The BLS provides public data regarding the Consumer Price Index (CPI) and the CPI-Urban. The CPI measures the average change over time in the prices paid by urban consumers for a market basket of consumer goods and services.[364] We annualized monthly CPI data from 1990 to 2020 for the U.S. city average for urban consumers to adjust monetary amounts for inflation.

C.2.2 FFIEC Census Flat Files

SOURCE

Federal Financial Institutions Examinations Council (FFIEC).

DESCRIPTION

The census flat files are prepared by the FFIEC as a convenient method of accessing and analyzing the FFIEC census data that are used to create the HMDA and Community

[364] *See* U.S. Bureau of Labor Stat., *Consumer Price Index*, https://www.bls.gov/cpi/ (last visited Nov. 17, 2022).

Reinvestment Act (CRA) Aggregate and Disclosure Reports.[365] These publicly available files are updated annually to reflect changes to MSA/MD boundaries as announced by the Office of Management and Budget (OMB) and to CRA Distressed/Underserved Census Tracts as announced by the Federal banking regulatory agencies. The 2012 census data begins to reflect data collected from the 2010 Census. At the time of analysis, 2020 census data was not yet available; therefore all years of data reflect information corresponding to 2010 census boundaries.

Chapter 3 analyses use the FFIEC census flat file data for Census Tract-level information on characteristics including population, median family income, the racial and ethnic composition of residents, and the urban/rural classification of the neighborhoods where HMDA-reported properties are located.

C.2.3 Limited Industry Outreach

SOURCE

The Bureau conducted limited outreach of HMDA reporters to inform the HMDA assessment. The outreach was intended as a fact-finding function, and the Bureau learned about external stakeholders' experiences with the HMDA rule implementation and compliance processes.

DESCRIPTION

The Bureau's approach was composed of targeting outreach to a limited number of representative HMDA reporters based on various closed-end and open-end lines of credit loan volume thresholds. The Bureau provided a summary document to share with four financial institutions that participated in the outreach to help frame the financial institutions' discussions of issues and the costs of HMDA operations. The document was designed to assist those HMDA reporters in participating effectively in outreach meetings with the Bureau and did not constitute an industry survey. Information and data from the limited industry outreach are incorporated into Chapter 6 of this report.

[365] *See* Fed. Fin. Insts. Examination Council, *FFIEC Census Flat Files*, https://www.ffiec.gov/censusapp.htm (last updated Aug. 2022).

C.2.4 Literature Review

SOURCE

The Bureau conducted a comprehensive literature review to understand how the new HMDA data have improved the understanding of mortgage markets and more broadly firm and consumer behaviors.

DESCRIPTION

Results from the literature review are incorporated into Chapter 5 of this report.

C.2.5 HMDA Assessment RFI

SOURCE

On November 22, 2021, the Bureau published a request for information (RFI)[366] on the HMDA Rule assessment in the *Federal Register* and invited the public to submit comments and information on a variety of topics. The public comment period closed on January 21, 2022.[367]

DESCRIPTION

The Bureau received approximately 40 comments in response to the RFI. The Bureau summarizes the comments and information received on certain topics in Appendix B of this report, and the full comments are available on www.regulations.gov.[368] Relevant sources of data provided to the Bureau from commenters to the November 2021 RFI are incorporated and referenced where applicable in this report.

[366] *See* Bureau of Consumer Fin. Prot., *CFPB Seeks Input on Detecting Discrimination in Mortgage Lending* (Nov. 2021), https://www.consumerfinance.gov/about-us/newsroom/cfpb-seeks-input-on-detecting-discrimination-in-mortgage-lending/.

[367] *See* comments to 86 FR 66220 (Nov. 22, 2021), https://regulations.gov/docket/CFPB-2021-0018.

[368] As stated in the RFI, the Bureau is not responding to each comment received pursuant to the RFI. ("The Bureau plans to consider relevant comments and other information received as it conducts the assessment and prepares an assessment report. The Bureau does not, however, expect that it will respond to each comment received pursuant to this document in the assessment report. Furthermore, the Bureau does not anticipate that the assessment report will include specific proposals by the Bureau to modify any rules, although the findings made in the assessment will help to inform the Bureau's general understanding of implementation costs and regulatory benefits for future rulemakings.")

C.2.6 Mortgage Industry Standards Maintenance Organization Data Dictionary and Guides

SOURCE

Mortgage Industry Standards Maintenance Organization (MISMO)[369].

DESCRIPTION

MISMO is a not-for-profit, subsidiary that the Mortgage Bankers Association (MBA) established in 1999 that develops data standards for the mortgage finance industry to submit and share standardized mortgage data. MISMO standards are widely accepted and are required by most regulators, housing agencies and the GSEs that participate in the industry. Use of MISMO's standards has been found to lower per-loan costs, improve margins, reduce errors, and speed up the loan process by reducing manual, paper-based processes while creating cost savings for the consumer. The MISMO data standards were updated to reflect the overlap with HMDA data points.

C.2.7 Occupational Employment and Wage Statistics (OEWS)

SOURCE

U.S. Bureau of Labor Statistics (BLS).

DESCRIPTION

The wage for compliance officers was obtained using the OEWS survey from the BLS. The BLS implements the semi-annual OEWS survey to non-farm establishments to produce occupational estimates at the National, State, and sub-State levels. The Bureau of Labor Statistics produces occupational employment and wage estimates for approximately 415 industry classifications at the national level. The industry classifications correspond to the North American Industry Classification System (NAICS) industrial groups. The OEWS survey is a federal-state cooperative program between the BLS and State Workforce Agencies (SWAs). BLS provides the procedures and technical support, draws the sample, and produces the survey materials, while the SWAs collect the data.

[369] *See* the Mortg. Indu. Standards Maint., *MISMO HMDA Implementation Toolkit*, (2022) https://www.mismo.org/standards-resources/mismo-product/mismo-hmda-implementation-toolkit for the most recent version/product offered by MISMO. We used the 2016 version of the implementation guide.

C.2.8 Uniform Loan Delivery Dataset (ULDD) Data Dictionary and Guides

SOURCE

Fannie Mae and Freddie Mac

DESCRIPTION

The ULDD is the data standard required by Fannie Mae and Freddie Mac for single-family loan deliveries.[370] The Federal Housing Finance Agency (FHFA) directed Freddie Mac and Fannie Mae (the GSEs) to develop the Uniform Mortgage Data Program (UMDP) to enhance the accuracy and quality of loan data delivered to each GSE. As part of this UMDP initiative, in 2012, Fannie Mae and Freddie Mac established the Uniform Loan Delivery Dataset (ULDD), which is a common set of required data elements (MISMO Data Points) for loan delivery. The UMDP created process efficiencies and risk management capabilities that strengthened the housing finance system for the long term to better serve consumers. The ULDD identifies the data points and the data delivery format required in connection with the delivery of loans to each GSE. The ULDD data standards were updated to reflect the overlap with HMDA data points.

[370] *See* Fannie Mae, *Uniform Loan Delivery Dataset* (Dec. 2021), https://singlefamily.fanniemae.com/delivering/uniform-mortgage-data-program/uniform-loan-delivery-dataset.